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Global Macro Strategist | Global

Top 10 Surprises for 2021

We all could use a year without surprises, but it would be a surprise itself if we didn't get any in 2021. As such, we discuss 10 scenarios we think would surprise consensus and thus could move global macro markets in meaningful ways.

Surprise #1: DM liquidity avoids EM and drives a DM asset bubble:

Liquidity is supposed to overflow the borders of the DM countries that are providing it. But disappointing vaccine take-up and a tough winter in the Southern Hemisphere focus investor attention on DMs with better underlying fundamentals. As liquidity is confined to DMs, valuations and prices squeeze higher. And as DM returns mount, fear of missing out creates the most buoyant DM asset price bubble of all time.

Surprise #2: A divided government agrees on an infrastructure package:

While a Democrat-controlled Senate would be a surprise, a bigger surprise in 2021 could be a bipartisan agreement on an infrastructure plan. The Fed acknowledges the upside and tapers QE earlier. 10y yields get close to 2%.

Surprise #3: ECB strategy review advises greater housing weight in HICP:

If the ECB offers an opinion at the conclusion of the strategy review that HICP needs to have a much more representative housing component, and quickly, it may cause the market to start wondering if the next deposit rate move might just be that long-awaited hike.

Surprise #4: BoJ rate cut once again on the table: If momentum toward the 2% stability target fails to appear even after vaccination relief from COVID-19, the BoJ may consider a further easing measure to boost price momentum. With Japan short-term real yields remaining high compared to other regions, the BoJ can cut the negative rate further.

Surprise #5: EUR/USD positive correlation with equities reverses: The positive correlation between EUR/USD and equities has strengthened in the past year, and it would come as a surprise if the correlation flips. EUR becoming a funding currency could catalyze this scenario.

Surprise #6: Immigration causes the northern lights to shine brightest:

Canadian growth could meaningfully outperform versus dour market expectations driven by pent-up migration flows, raising the attractiveness of Canadian assets to foreign investors. This would be a CAD-positive surprise for a market that remains bearish on the Canadian outlook.

Surprise #7: Long CNH/JPY is derailed by JPY becoming an asset currency:

JPY may turn from a funding currency to an asset currency amid the global risk recovery supported by overseas flows, since Japanese stocks appear to be cheap from a valuation perspective. The surprise for CNY could be on both sides. Strong exports could push USD/CNY to reach 6.0, with a nod

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from the PBOC, while it could reach 7.0 should China's double tightening reverse investors' bullish view and US-China tension flare up again.

Surprise #8: UK RPI legal challenges result in compensation: Our UK economics team anticipates that the November decision to not offer compensation post-RPI/CPIH alignment will face legal challenges. If those challenges appear as if they might be successful, it may surprise the market to some extent in 2021 and potentially lead to some widening of longer-maturity breakevens and/or a steepening of the 10s30s UK inflation curve.

Surprise #9: LIBOR-OIS dips negative: In a perfect storm of T-bills richening to ~0bp (or even slightly negative), EFFR remaining at roughly 8-9bp (or only slightly lower), and the TED spread (3m Libor-3m T-bill) compressing to new all-time lows (currently 8.5bp), LIBOR-OIS could briefly dip into negative territory.

Surprise #10: "Japanification" of US interest rate volatility: It is possible that increased reliance on central bank guidance and steady central bank purchases could lead to Japanification, or a large compression, of US interest rate volatility. A breakdown of the historically positive relationship between term premiums and implied vol could lead to outperformance of gamma-selling strategies.

This will be our last publication of 2020. Thank you for considering our views and providing feedback this past year. We wish you the best of luck in 2021.

Surprise #1: DM liquidity avoids EM and drives a DM asset bubble

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Lack of vaccine take-up discourages DM liquidity from helping EM markets, blowing up a DM bubble

The liquidity deluge [we have written so much about](#), mostly provided by central banks in Developed Markets (DM), is supposed to make its way around all markets in 2021, both DM and Emerging Markets (EM) alike. This liquidity is supposed to overflow the borders of the DM countries that are providing it, in part because DMs don't offer enough yield.

But what if vaccine take-up disappoints around the world? In mid-2021, as summer turns to winter in the Southern Hemisphere, virus cases mount. As a result, investors focus more risk-taking in Northern Hemisphere DMs with better underlying fundamentals. As liquidity is increasingly confined to DMs, valuations and prices squeeze higher. And as DM returns mount, fear of missing out creates the most buoyant DM asset price bubble of all time.

Benjamin Franklin is known to have written a letter in French to the scientist Jean-Baptiste Leroy that, "Our new Constitution is now established, everything seems to promise it will be durable; but, in this world, nothing is certain except death and taxes." He should have added, "and surprises to year-ahead outlooks". We know there will be surprises to the consensus 2021 outlook, and this document is our attempt get you thinking about what they might be.

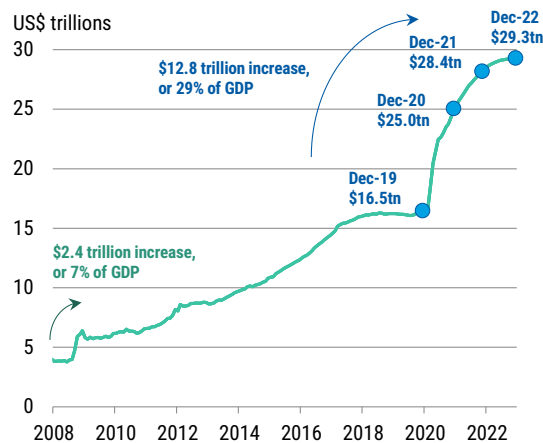
Forecasts for markets and economies are set up, in a sense, for failure. Individual forecasts are delivered usually as point forecasts, which provide a false sense of certainty about an uncertain future. The "consensus" exacerbates this problem. It summarizes those disparate, individual forecasts into one proclamation about how the future will unfold. Naturally, the wisdom of this consensus is often ridiculed.

However, dismissing the consensus as likely to be wrong misses an important feature of that failure: forecasts can be wrong in direction or magnitude. While getting the direction right is critical, we think the magnitude of moves in 2021 may surprise the most. Our first Top 10 surprise of 2021 starts with something we don't think will surprise at all: a tremendous amount of central bank quantitative easing (QE).

As we discussed in our year-ahead outlook, [Back to Life, Back to Liquidity](#), very few central banks will be raising policy rates in 2021, and a few will be cutting them further. The main feature of monetary policies will be even larger balance sheet sizes.

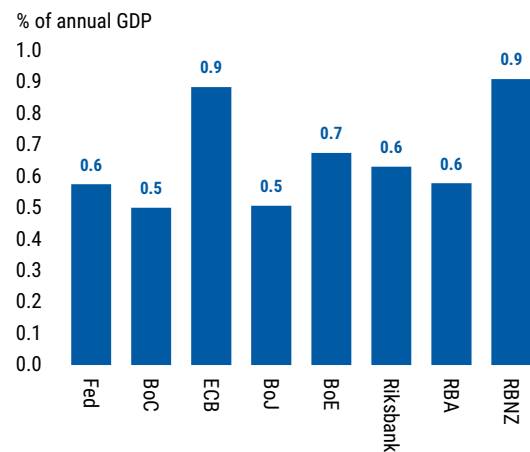
From the beginning of the pandemic through 2022, our economists expect G4 central bank balance sheets to increase \$12.8 trillion, or 29% of nominal GDP (see [Exhibit 1](#)). This degree of balance sheet expansion – occurring over a 3-year period – is akin to the size of expansion that occurred over the 10 years prior. We've never seen this degree of expansion over such a short time period.

Exhibit 1: G4 central bank balance sheet and Morgan Stanley forecast



Source: Haver Analytics, national sources, IMF, Morgan Stanley Research forecasts

Exhibit 2: G10 central bank expected average monthly QE pace in 2021, as % of annual nominal GDP*



Source: Morgan Stanley Research, National central banks, Bloomberg
* End of 2020 annual GDP

Expanding to the G10, we expect 8 of the G10 central banks to remove a combined US\$304 billion of securities (\$238 billion of which will be government bonds), on average, from private markets every month in 2021. Unsurprisingly, the Fed and the ECB will remove the most securities each month, in US dollar terms.

On the basis of nominal GDP (as of end-2020), the expected ECB and RBNZ purchases in 2021 stand out for their large size (see [Exhibit 2](#)). In total, these 8 central banks will be adding liquidity worth 0.66% of annual nominal GDP, on average, every month in 2021. That is a rapid pace of global liquidity injection, the likes of which we haven't seen outside of 2020.

So where will all of this liquidity end up? Our assumption, and the assumption we think is built into the consensus view, is that it spreads around a variety of markets – both DM and EM – that offer the most attractive yields. But we also know that liquidity doesn't have to find its way around markets if it doesn't have an incentive. And it certainly doesn't have to find its way into the riskiest assets.

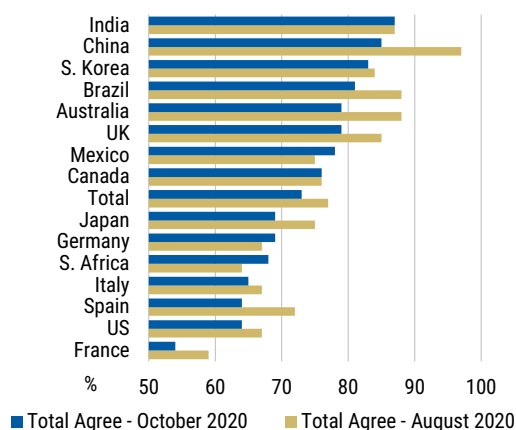
The surprise starts with the vaccine...

Markets have been largely immunized from the worsening global COVID-19 infection rates due to (1) the extraordinary amount of liquidity discussed above, and (2) the development of several effective vaccines. We see liquidity support as ongoing, but what if vaccines don't return us to life as we once knew it?

One reason to not be complacent is the risk around vaccine uptake within the population. If the world's major economies fail to reach herd immunity on the timelines currently assumed, due to low take-up of the vaccine, then the global economy could fail to hit the lofty growth rates our Global Economics team is expecting (see [2021 Global Macro Outlook: The Next Phase of the V](#)).

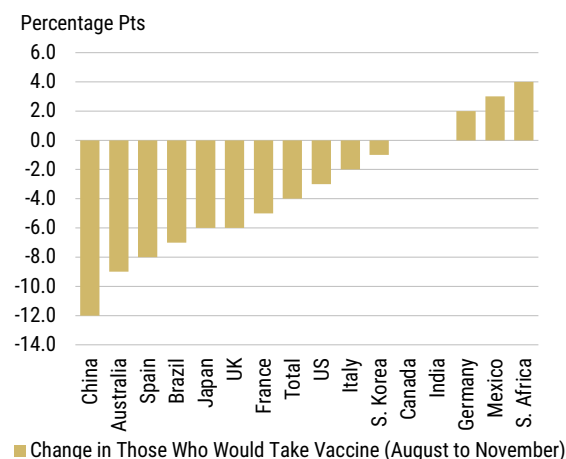
[Exhibit 3](#) and [Exhibit 4](#) below show data from an [IPSOS survey](#) of more than 18,000 adults from 15 countries, in which respondents were asked if they agreed with the statement: "If a vaccine for COVID-19 were available, I would get it". Of the total sample, 73% agreed with that statement in the October survey, but this was down 4pts from August and the results vary significantly across countries.

Exhibit 3: If a vaccine for COVID-19 were available, I would get it



Source: IPSOS, Morgan Stanley Research

Exhibit 4: Vaccine acceptance dropped in many countries from August to November



Source: IPSOS, Morgan Stanley Research

In the US, the CDC Advisory Committee on Immunization Practices noted that the overall acceptability of a COVID-19 vaccine was moderate, with 42-86% intending to receive the vaccine (depending on the survey). A large national survey evaluating people's intention to take the vaccine declined from 72% in May to 51% in September. Our Biotechnology team wrote about the topic recently (see [COVID-19: ACIP Highlights Key Debates Around Early Vaccine Allocation](#)).

The World Health Organization describes vaccine acceptance as "the next hurdle" in the fight against COVID-19 and lists the "enabling environment; social influences; and motivation" as three key drivers of vaccines uptake. The WHO further states that "Low levels of vaccine acceptance can follow from low confidence in vaccines, as a result of, for example, the belief that the vaccine will not be effective", affecting motivation.

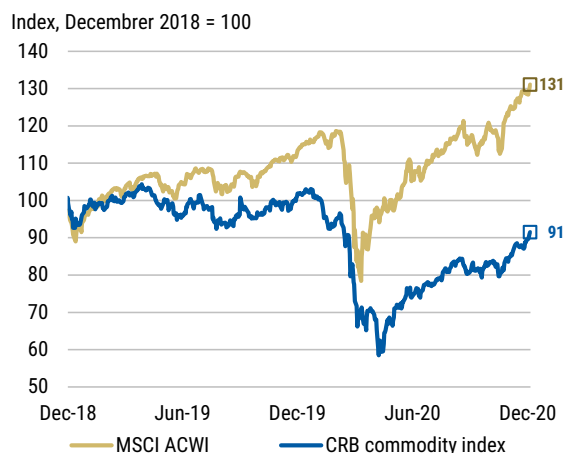
The good news here is that the Pfizer and Moderna vaccines have been found to be highly effective, which should encourage uptake. However, there has been some uncertainty about the efficacy the Astra Zeneca vaccine, which is the vaccine that many less developed economies could rely on given its less demanding transportation requirements.

This risk could make the outlook for EMs more challenging. Some EMs have been spared the same surge in infection rates seen in Europe and the US, perhaps in part due to the seasons. As winter ends in the Northern Hemisphere, Morgan Stanley expects infection rates to drop. But for EMs in the Southern Hemisphere, the opposite may be the case.

...and ends with a redirection of liquidity

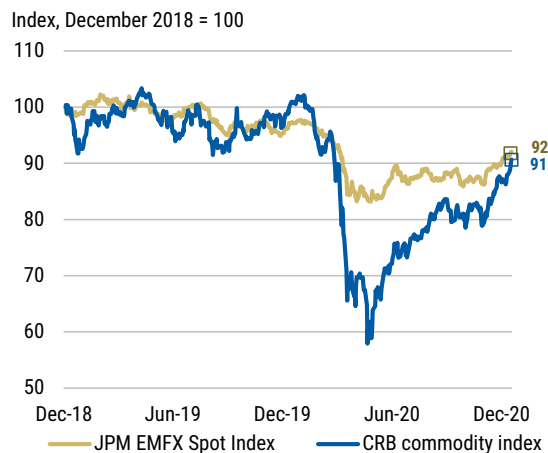
The impact of a renewed surge in infections on EM asset prices could be neutralized to some extent by ample central bank liquidity. But what if the liquidity is directed elsewhere? We know that liquidity had a dramatic impact on equity and, to a lesser extent, on commodity prices throughout the year (see [Exhibit 5](#)). But we also know that it had much less impact on EMFX markets, which generally track commodity prices well (see [Exhibit 6](#)).

Exhibit 5: MSCI All Country World Index (ACWI) vs. CRB commodity index



Source: Morgan Stanley Research, Bloomberg

Exhibit 6: CRB commodity index vs. EMFX spot price performance



Source: Morgan Stanley Research, Bloomberg

In this surprise, investor enthusiasm for EM fades and the liquidity generated by DM central banks remains in DM. As investors deploy this liquidity, DM valuations and prices squeeze higher. This would prevent bond yields from rising as much as we, or consensus, expect. In addition, it would boost risky-asset prices above already elevated consensus projections.

While US Treasury yields remain unattractive from a historical perspective, they are the highest in DM. As such, Treasuries benefit from this DM liquidity, and the consensus forecast for 10y yields at the end of 2021 (1.25%) is disappointed by the 10y yield remaining below 1.00%. This allows broad liquidity, in addition to the narrow liquidity injected by central banks, to remain ample, which boosts the prices of risky assets (for a complete discussion of liquidity, see [Do Deficits Destroy Liquidity?](#)).

As risky-asset prices in DM rise above consensus forecasts (median S&P 500 forecast at 4,000, according to Bloomberg), fear of missing out drives prices even higher. In the rally, even the most optimistic forecasts for year-end are surpassed mid-year (high S&P 500 forecast at 4,400, according to Bloomberg). With no end in sight, news outlets label 2021 the year of "the greatest asset bubble of all time".

Surprise #2: A divided government agrees on an infrastructure package

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United we stimulate, divided we stimulate

Congress delivers a rare, but not unprecedented, bipartisan effort to boost the economy in 2021, via an infrastructure package. If the Georgia Senate election results in a divided government as is expected, bipartisan sponsorship for an infrastructure package could surprise markets. Alternatively, while Democratic control of Congress after Georgia would be a surprise in itself, there remains scope for further surprises wherein bipartisan co-operation results in a bigger infrastructure package with a wider scope and significant spending. The Fed acknowledges the medium-term upside risks from fiscal spending, and prepares for tapering QE as early as 4Q21. 10y Treasury yields test the 2% level in 2021, albeit avoiding a taper tantrum. Breakevens breach their highest levels over the last five years.

Only for ten years of the last forty have we seen a united government in the US, with the control of House, Senate, and Presidency residing with one party. And united governments have consequences for the economy. The two most major legislative accomplishments in the last decade (outside of a crisis, like in March 2020), have come under united governments – the Affordable Care Act under Democrats in 2010, and the Tax Cuts and Jobs Act under Republicans in 2017. For all the other years, "fiscal gridlock" has been a given, and monetary policy has been the key driver for markets.

With monetary policy nearly stretched to its limits, the role of fiscal policy has gained increased importance – a dynamic that has been stressed many times by the Fed itself. While we do not yet know who will control the Senate in 2021, it is likely, according to betting markets, that Republicans control the Senate by winning at least one of the two Georgia seats, and we may end up with fiscal gridlock.

While a double victory for Democrats in Georgia would be a surprise in itself, the bigger surprise would be if a divided Congress can find compromise on fiscal programs that provide an additional boost to the economy in 2021, likely in the form of an infrastructure package. There are three reasons why such a bipartisan boost, though unlikely, is plausible, and therefore it is something investors should watch out for:

- The idea of infrastructure spending is popular within both parties, albeit with differences on how to fund it,

- There is a [history of deal-making between President-elect Biden and presumptive Senate majority leader under Republican control Mitch McConnell](#), and
- [Prominent economists have suggested continued fiscal expansion into the recovery](#), recognizing that the fiscal tightening in the previous cycle (2011-14) hurt the economy (see [Exhibit 7](#)).

Exhibit 7: Components of GDP, and drag from fiscal contribution in 2010-16

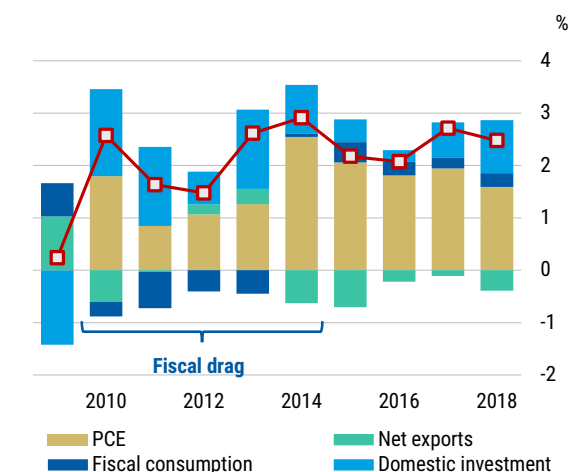
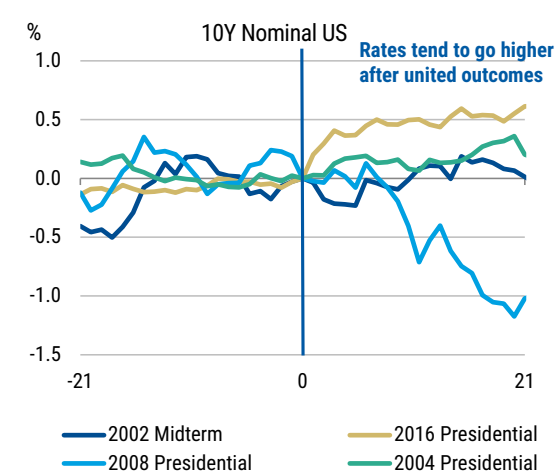


Exhibit 8: Reaction of US Treasury yields to election with united government outcomes



Note that, although rare, fiscally important bipartisan legislations do happen – with the [2012 JOBS act](#), and the [2013 Bipartisan Budget act](#) being recent examples, and the 1986 tax reform under President Reagan being the marquee example for bipartisan fiscal agreements.

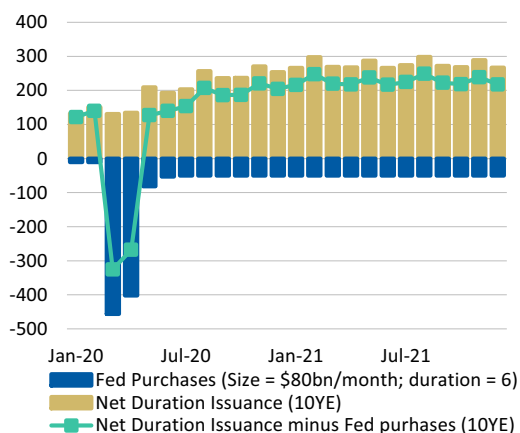
Bipartisan co-operation could be even more potent if Democrats gain control of the Senate by winning both seats in Georgia in the runoff election in January. While, in theory, Democrats can then pass legislation without Republican support, bipartisan support could make the infrastructure package bigger and more expansive, enabling near-term higher deficits, with the hope of generating higher economic growth to pay for deficits.

How would interest rates shake out if fiscal policy surprises to the upside? For a start, the Treasury market generally responds to united government results in elections with higher yields. As [Exhibit 8](#) shows, 10y yields rose after united government outcomes, notably after the 2004 and especially the 2016 election. The outsized reaction of yields to the 2016 election is a sign of the increasing role of fiscal policy in affecting interest rates, as monetary policy has been constrained over the last decade.

On a more academic level, a paper titled [New Evidence of the Interest Rate Effects of Budget Deficits and Debt](#) by Thomas Laubach attempts to quantify the effect of deficits on interest rates, particularly via the Treasury supply channel. Laubach concludes that 5y forward longer-term yields (let's say 5y10y yields) rise "about 25 basis points per percentage point increase in the projected deficit/GDP ratio". While speculating on the size of a hypothetical infrastructure package is difficult, as a rule of thumb, a US\$1 trillion package, spread over five years, adds about ~1pp of debt/GDP, and thereby might be worth a 25bp reaction in 10y yields.

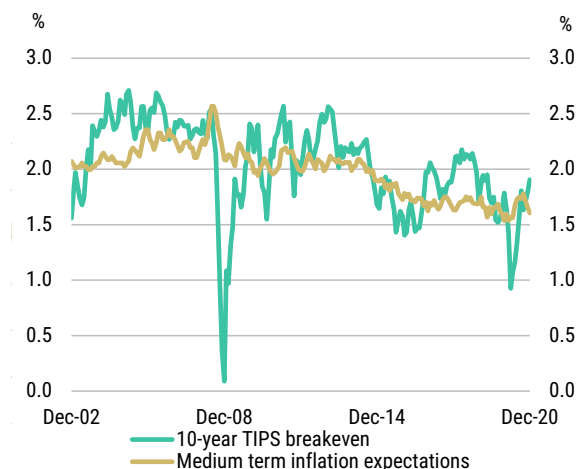
Note that Treasury supply is already expected to be historically high in 2021, adjusted for the Fed's QE (see [Exhibit 9](#)). In the context of the already high net supply, and the numbers we discussed above, a 50bp reaction in yields, all else equal, could be realized if an infrastructure plan is passed by Congress. Given that our [current 10y yield forecast](#) is just shy of 1.50% by the end of 2021, we could see 10y yields head towards 2% if this surprise materializes.

Exhibit 9: Treasury supply versus Fed QE under fiscal stimulus assumptions of ~US\$1 trillion, and unchanged QE



Source: Bloomberg, Morgan Stanley Research

Exhibit 10: 10y breakevens versus 10y inflation expectations over the last 20 years

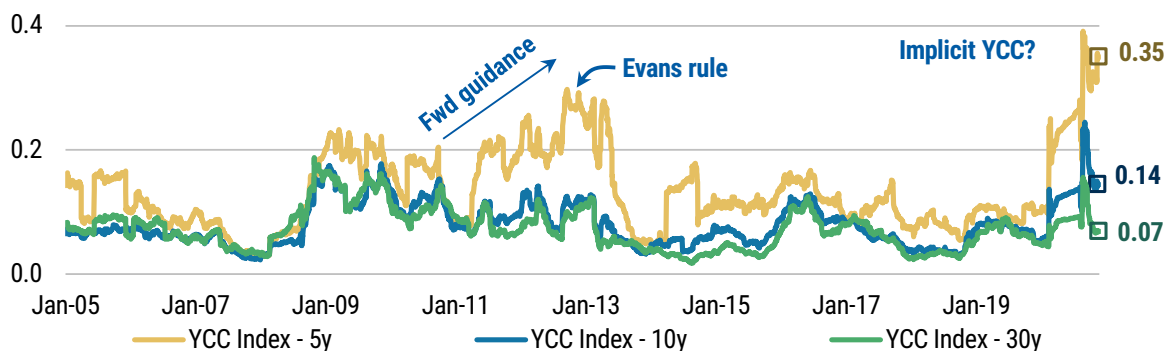


Source: Bloomberg, Morgan Stanley Research

Of course, the Fed's reaction to such a surprise is critical to how yields respond, especially given that markets have operated with an assumption of [implicit yield curve control](#) (see [Exhibit 11](#)). However, we think that if the recovery takes firm hold in 2021, and inflation is headed towards 2% as we expect, then we could see the Fed have a higher tolerance for rising yields, especially in the back end, and the degree of yield curve control could keep coming down as it has over the last six months (see [Exhibit 11](#)).

Exhibit 11: Implicit yield curve control index on the 5y 10y and 30y points

YCC Index



Source: Bloomberg, Morgan Stanley Research

We think that even if 10y yields get close to 2%, it would be a far more dovish setup in 2021 than it was in 2018 for example, when yields rose by 75bp to 3.25% in response to tax cut stimulus playing out. In other words, 10y yields close to 2% in 2021, in response to a genuine economic surprise, would not be inconsistent with the Fed's desire to stay more dovish in this cycle versus the last one.

A second important aspect of such a move higher in yields would be new highs in back-end breakevens. We have already been forecasting a gradual recovery in breakevens to just above 2% across the curve in our base case. We think that an infrastructure package could be seen by the market as a true game-changer for inflation expectations.

In our framework for assessing breakevens, it is a slow and steady decline in inflation expectations over the years that has led to structural decline in breakevens (see [Exhibit 10](#)). If inflation expectations experience a bump higher, we could see 10y breakevens break above 2.20%, which was the highest level in 2018.

Surprise #3: ECB strategy review advises greater housing weight in HICP

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Housing weight to eventually climb in HICP?

Rather than changing, increasing or decreasing the inflation target while adhering to a commitment to symmetry, the ECB could suggest at the conclusion of the strategy review that Eurostat/Member State statistical agencies should design a HICP measure that lends greater weight to owner-occupied housing costs in the future. Currently, actual rents/owner-occupied housing represent just 6.6% of euro area headline inflation versus over 20% in the UK and over 30% in the US, meaning that euro area inflation significantly understates one of the few areas where there has actually been steady inflation in Europe in recent years.

However, a commitment to a more robust and accurate measure could lead the market to conclude that inflation has a better chance of actually converging towards target during periods of economic growth, resulting in less need for exceptionally accommodative monetary policy in the future.

It has been almost a year since we first published [A Review for the Ages](#) in January 2020, but many of the key themes and questions we focused on in relation to the ECB's strategy review remain as relevant today as they did then.

For example, one conversation that will likely be included as part of the ECB strategy review is whether or not it should consider an alternative to HICP when assessing and defining price stability, given that a number of publications like [Thoughts on a Review of the ECB's Monetary Policy Strategy \(Blot, Creel, Hubert\)](#) suggest that a sizeable portion of the factors influencing inflation are global in nature and outside the ECB's control.

In 2021, we think that a possible surprise for the market could be that the ECB strategy review concludes that one of the main issues impacting inflation is a measurement issue in addition to demographics, technology, globalization and a lack of fiscal support (until recently) to complement easy monetary policy following the GFC and sovereign crisis periods.

Simply put, low/negative rates and the ECB's exceptionally accommodative stance have had an impact on inflation across the euro area – but it just so happens that one of the key places where that inflation has been the most pronounced is barely represented in HICP.

At the start of 2020, it appeared that the ECB may have been considering giving more attention to housing-related inflation, given the increasingly larger number of references to owner-occupied housing costs from ECB Governing Council members and within the [January](#) and [February](#) 2020 Accounts of the monetary policy meetings.

From the [January 2020 Account of the monetary policy meeting](#), "moreover, as HICP inflation only partially reflected changes in housing-related costs inflation measures would likely be higher currently if the cost of owner-occupied housing was accounted for."

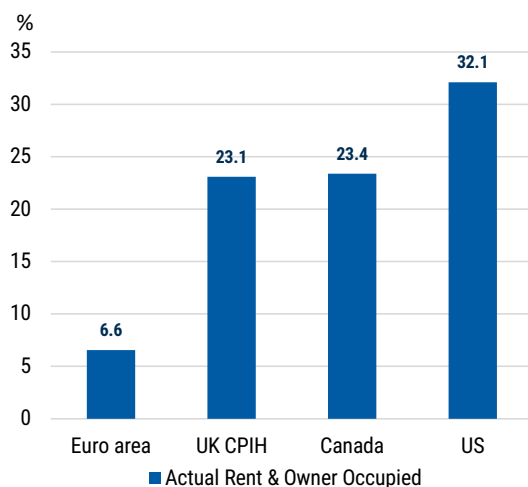
From the [January 2020 Account of the monetary policy meeting](#), "regarding the impact of the cost of owner-occupied housing on inflation measures it was pointed out that while the effect of including this factor was generally procyclical and increased the volatility of inflation, it could also help to explain the perception of higher inflation in some countries where housing market developments had been relatively strong."

From the [February 2020 Account of the monetary policy meeting](#), "HICP inflation excluding food and energy was at its highest level for four years, although it was still slightly below its pre-crisis average. It was remarked that this level had been reached even without housing costs fully represented in the inflation measures."

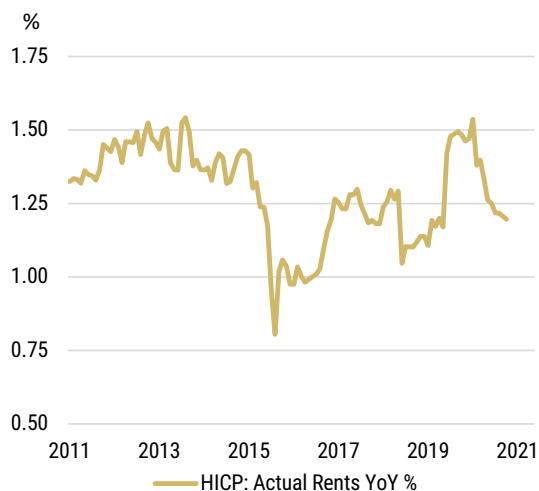
However, those references disappeared as quickly as they started once the strategy review was delayed and the pandemic response became the principal area of focus for the ECB. In fact, since the [February 2020 Account of the monetary policy meeting](#), there have been next to no references to owner-occupied/rental/housing inflation anywhere within the ECB Accounts of the monetary policy meetings. But in 2021, the strategy review may finally have a chance to be completed.

HICP significantly understates housing inflation: One of the more common critiques of HICP as a broader measure of inflation in the euro area is that it significantly understates the true cost of housing and rental inflation, both of which tend to respond pro-cyclically during periods of growth that occur simultaneous with accommodative monetary policy.

Currently, 'actual rents' in HICP account for only 6.6% of the index whereas more model-based owners' equivalent measures in indices like UK CPIH, Canada CPI and the US CPI are comfortably more than 20% of the overall inflation measure (see [Exhibit 12](#)).

Exhibit 12: Euro area HICP significantly understates actual and owner-occupied rents

Source: Haver Analytics, Morgan Stanley Research

Exhibit 13: Euro area HICP actual rents heavily impacted by rent controls

Source: Haver Analytics, Morgan Stanley Research

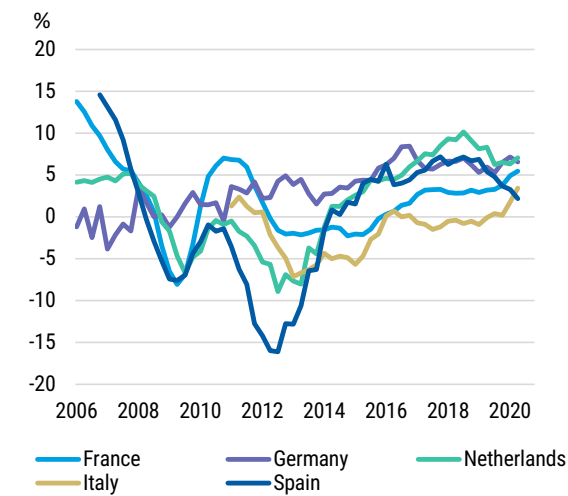
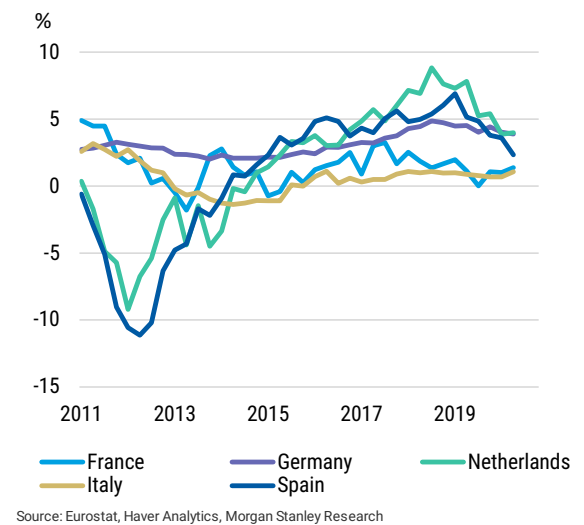
While a portion of this under-representation is due to issues with the construction of the index and furthermore what types of observable prices are allowed to be included, the problem runs even deeper when accounting for the fact that a significant portion of the 6.6% 'actual rents' inflation is subject to rental controls.

[ECB Economic Bulletin Issue 8/2016](#) highlights this problem by noting that, "in some euro area countries rent controls, including indexation, are important and can lead to a longer-lasting divergence between the two sets of prices. This is especially true of social housing, which accounts for a significant part of some countries' national HICP 'actual rentals for housing' component."

House prices have been rising in the euro area: Currently, there are two different quarterly series published in the euro area by Eurostat/Member State statistics offices that measure house price and/or owner-occupied housing inflation. Eurostat has published a [Technical manual on Owner-Occupied Housing and House Price Indices](#) in 2017, which describes their methodology.

Both series (see [Exhibit 14](#) and [Exhibit 15](#)) show that there has been some degree of appreciation in house prices in recent years across each of the largest euro area Member States, suggesting that inflation may have been marginally higher during these periods of economic growth/low rates if there was greater housing inclusion in HICP.

ECB President Lagarde appeared to agree with this sentiment in a [May 2020 letter](#), where she noted that, "It is also important to note that, according to experimental calculations, adjusted inflation figures giving a larger weight to housing costs are currently slightly higher than the annual HICP inflation rate, whereas at some points in the past such adjustments would have resulted in a lower inflation rate."

Exhibit 14: Euro Area: Quarterly Housing Price Index YoY %

Exhibit 15: Euro Area: Quarterly Owner-Occupied Housing Index YoY %


Yet significant challenges remain: On the surface, advising Eurostat/Member State statistics agencies to create a series that lent more weight to housing-related inflation measures would seem to be a quick fix to address some of the known measurement issues facing HICP.

However, the process of doing so is anything but simple, which is why any suggestion that it be fast-tracked could come as a surprise to the market. Consider the following:

- HICP includes observable prices in its methodology but greater housing inclusion would require the potential introduction of more model-based series.
- Both of the current house price/owner-occupied series are quarterly indices while HICP is a monthly series that is reported non-seasonally adjusted. Before the process of including housing on a larger scale could begin, the series would need to be reported monthly, potentially leaving them susceptible to large swings.
- Finally, there are currently no quarterly dwelling price/owner-occupied series for Greece.

In other words, there remains a lot of debate about both how a more-housing inclusive HICP series could be created and the speed at which that series creation could occur. These issues were summed up best by the following two quotes from ECB President Lagarde:

December 2, 2019, [ECB Press Conference Q&A](#). "The whole debate of whether or not we take housing into the measurements and what portion of housing and how do we dissect between the asset value of the land and the actual use of the premises. Those are tricky technical questions that we will have to look at, and on which we should also take a view because there is...quite a difference between the various perceptions, anticipation, expected inflation depending on how we measure it."

President Lagarde in a May 2020 letter, "ultimately, it is Eurostat and the statistical offices of the EU Member States that decide how owner-occupied housing may best be treated in the HICP context. The ECB will contribute with its opinion at the end of the strategy review."

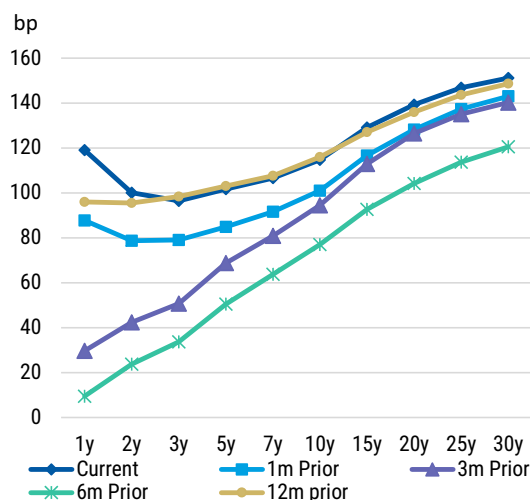
Financial markets are already starting to price some inflation: In recent weeks, market-based measures of inflation expectations have been climbing higher in the euro area, suggesting that financial market participants may be starting to envision a potential return of inflation in the coming years despite the fact that year-on-year measures of HICP remain incredibly low.

At the time of our writing, the price of Brent in euros had risen to its strongest level since March while the 5y5y euro inflation swap had climbed back to its highest level since February 2020. And, in recent days, input and output price indices in the broader euro area manufacturing PMI have also continued to accelerate higher, suggesting the possibility that some inflationary pressures are building underneath the surface.

Measures of year-on-year inflation are already expected to rise in 2021 given the presence of very favorable base effects, but current ECB deposit rate cut pricing does not yet seem to reflect an environment where that rise in inflation could result in a change to the ECB forward guidance, particularly if the euro keeps appreciating.

However, if the ECB offer an opinion at the conclusion of the strategy review that HICP needs to have a much more representative housing component, and quickly, it may just cause the market to start wondering if the next deposit rate move might just be that long-awaited hike.

Exhibit 16: Euro inflation swaps curve back to pre-pandemic levels



Source: Bloomberg, Morgan Stanley Research

Exhibit 17: 5y5y euro inflation swap has climbed back close to 1.30%



Source: Bloomberg, Morgan Stanley Research

Surprise #4: BoJ rate cut once again on the table

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Might the BoJ cut its policy rate deeper into negative territory?

Markets will likely be caught by surprise if the BoJ opts to lower its short-end policy rate (currently -0.1%) deeper into negative territory in the event of additional easing being deemed necessary. The central bank has until now distanced itself from that possibility, fearing that it could impair the financial intermediation channel and thereby destabilize the broader financial system. That said, a rate cut might conceivably need to be considered if deflationary pressures build and a decline in the expected inflation rate causes real interest rates to climb sharply at the short end.

BoJ's primary focus is on maintaining the financial intermediation channel

The BoJ has left open the option of a rate cut in its forward guidance while also signaling that it would prefer not to go down that road if possible. The central bank has already acknowledged that achieving its +2% "price stability target" will take quite some time, and it is no longer focusing particular attention on whether "momentum toward achieving the price stability target" is being maintained. Indeed, the BoJ's top priority at this juncture is to ensure that the financial intermediation channel continues to function smoothly by providing businesses with any cash flow support they may require in order to ride out the ongoing COVID-19 crisis.

The BoJ has taken a [three-pillar approach](#) to the crisis, with its funds-supplying programs designed to ensure that private sector financial institutions still have an incentive to lend while its asset purchase programs are aimed at preventing a destabilization of financial markets. The BoJ's greatest concern is that deterioration in the real economy and financial conditions will have a significant negative impact on financial institution balance sheets, thereby impairing the financial intermediation channel by making credit less available (as lenders start to go into self-defense mode).

The recently launched [Special Deposit Facility to Enhance the Resilience of the Regional Financial System](#) is clearly intended to catalyze internal reforms capable of making lenders more profitable and thereby more willing and able to fulfil their financial intermediation duties. In this context it seems quite understandable that the BoJ would want to avoid cutting its policy rate in response to COVID-19 for fear of generating yet further downward pressure on financial institution profits.

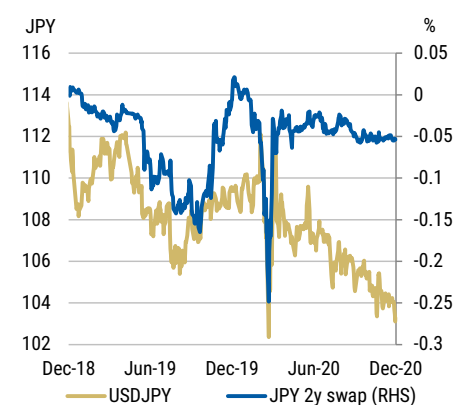
Market participants do indeed appear to understand the BoJ's approach. Up until March this year a certain amount of correlation could be observed between the USD/JPY exchange rate and short-end JPY swap rates (see [Exhibit 18](#)), reflecting a belief that significant appreciation of the yen – and resultant downward pressure on import prices – would make the BoJ more likely to assess that "there is a greater possibility that the momentum toward achieving the price stability target will be lost". More recently, however, the BoJ's forward guidance makes no mention whatsoever of "momentum":

*For the time being, **the Bank will closely monitor the impact of the novel coronavirus (COVID-19)** and will not hesitate to take additional easing measures if necessary, and also it expects short- and long-term policy interest rates to remain at their present or lower levels.*

It thus seems reasonable to assume that worsening COVID-19 outbreaks alone are unlikely to be sufficient to induce a BoJ rate cut. However, the situation may change. At [the December MPM](#), **the BoJ voiced concern about the prolonged downward pressure on economic activity and prices due to the impact of COVID-19, and mentioned the need to support the economy to achieve the price stability target of 2%.** The Bank announced that it will assess various measures without changing the current QQE with YCC framework and make public its findings at the March 2021 MPM.

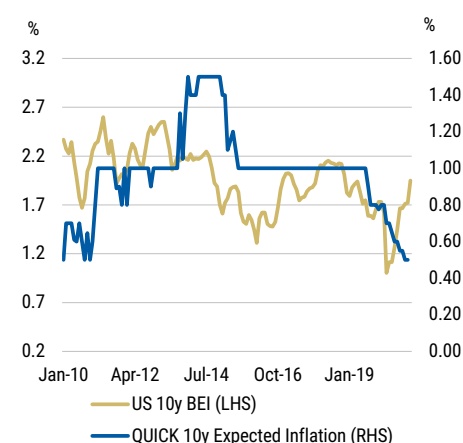
Under what circumstances might the BoJ go deeper?

Exhibit 18: USD/JPY and 2y swap rate



Source: Bloomberg, Morgan Stanley Research

Exhibit 19: US 10y breakeven rate versus 10y Japan inflation expectations (survey-based)



Source: Quick, Morgan Stanley Research

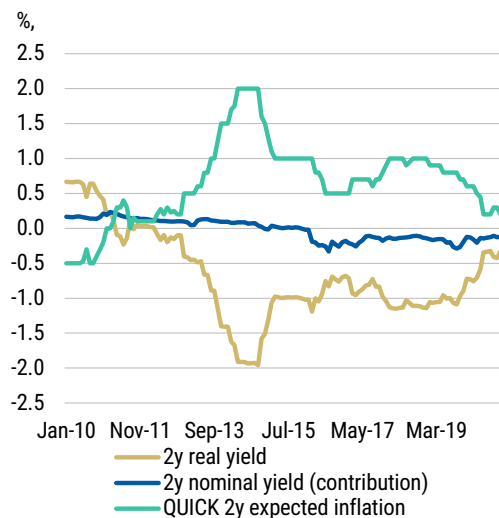
In a scenario of COVID-19 vaccines becoming widely available from some time in 2021, infection numbers declining, and the global economy staging a solid recovery, we would expect the BoJ to commence a gradual pivot away from COVID-19 measures back towards pursuit of its +2% price stability target. **"Momentum toward achieving the price stability target" would then be likely to become a renewed focus.** As mentioned above, it has already started to assess for further effective and sustainable monetary easing to achieve the price stability target of 2%.

The US breakeven rate has already recovered to around +2% amid hopes for COVID-19 vaccine effectiveness and an economic recovery, but Japanese measures of inflation expectations – including JGBi breakevens and survey-based estimates – meanwhile continue to decline (see [Exhibit 19](#)).

With nominal interest rates remaining very tightly pegged under the BoJ's "yield curve control" framework, the net upshot is that monetary conditions have actually tightened as a consequence of rises in real interest rates (see [Exhibit 20](#)). There is also a danger that higher real rates will cause the yen to appreciate against a broad range of currencies since JPY might be favored in the short term as a form of global inflation hedge.

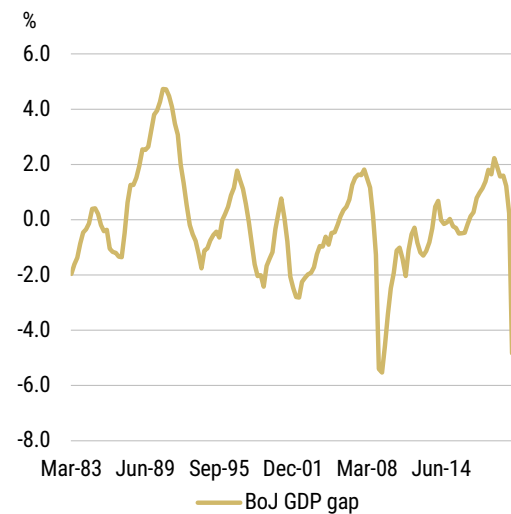
It is therefore conceivable that a BoJ rate cut aimed at lowering real interest rates will at least be contemplated if Japan's output gap shows little sign of climbing out of negative territory (see [Exhibit 21](#)) – implying that there is still no "momentum" towards +2% inflation – even as the COVID-19 pandemic starts to be brought under control. This is obviously not our main scenario at present and nor is it the market consensus, which is why we believe it warrants bearing in mind as a potential surprise.

Exhibit 20: Japan 2y real yield



Source: Quick, Morgan Stanley Research

Exhibit 21: BoJ output gap



Source: BoJ, Morgan Stanley Research

Surprise #5: EUR/USD positive correlation with equities reverses

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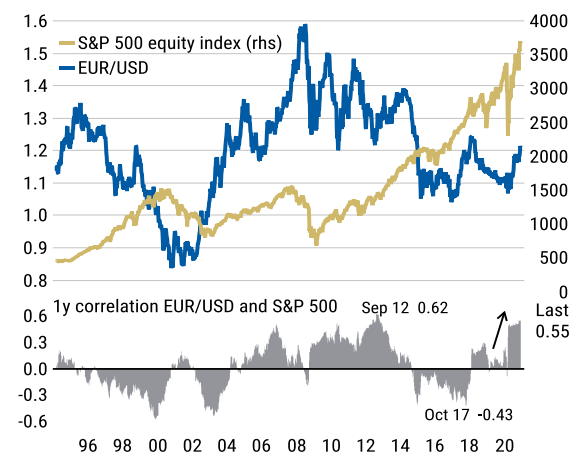
EUR becomes a stronger funding currency than USD

The market is expecting further USD weakness, global growth to pick up and eurozone equity markets to stay strong in 2021. The surprise would therefore be if the EUR/USD uptrend breaks down, but even more surprising would be if this were to happen in an environment of risk-on and not risk-off.

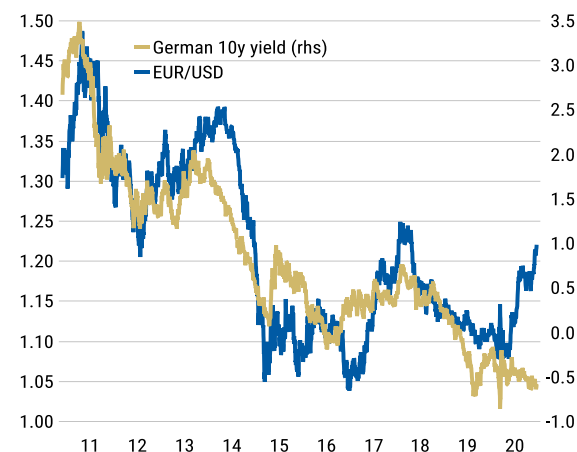
One of the key changes in trader expectations in the past year has been the increasing inverse correlation between USD and equity markets – so much so that the FX valuation dashboards focused on intraday moves in equity futures rather than interest rate differentials. So, for the macro surprise that could shake up European currency markets, we look at a scenario where EUR/USD positive correlation with equities reverses.

There are two main reasons why EUR can weaken in a broader risk-on environment: 1) If US rate expectations start to rise, making EUR a more attractive funding currency; or 2) If US growth expectations pick up materially while the eurozone's remains flat, making USD assets attractive, as happened in 2019.

Currency market correlations have changed in 2020, with the most persistent trend now being that USD weakens when risk markets perform well. The 1-year correlation between DXY and S&P 500 has reached a low of -0.6, the lowest level since September 2012 (see [Exhibit 30](#)). The dynamic is similar for EUR/USD as shown in [Exhibit 22](#). As equity markets became more important for FX, it could be said that nominal interest rates became less important than in the past, with EUR/USD rallying more than would have historically been seen with German Bund yields at these low levels ([Exhibit 23](#)).

Exhibit 22: EUR/USD positive correlation with equities got stronger in 2020

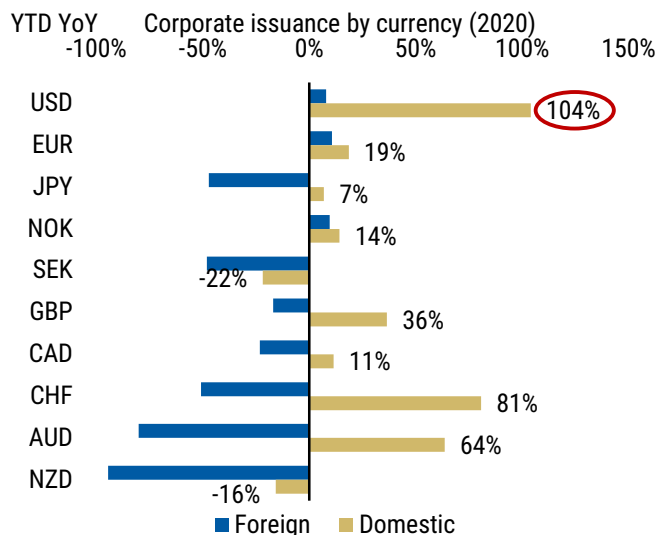
Source: Macrobond, Morgan Stanley Research

Exhibit 23: EUR/USD is no longer tracking EUR government bond yields

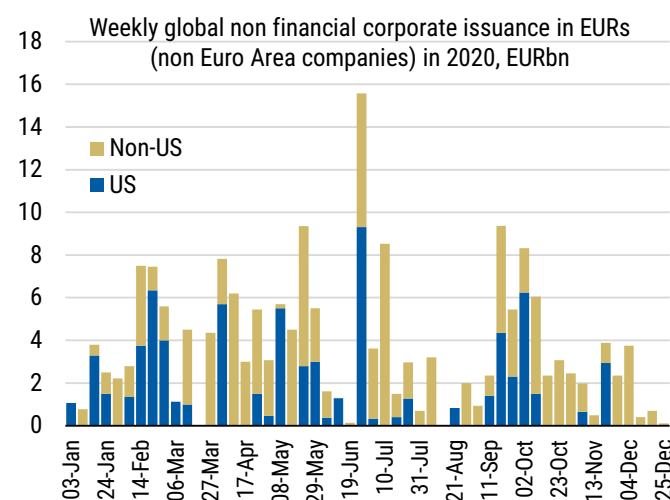
Source: Macrobond, Morgan Stanley Research

Why did EUR/USD and other G10/USD crosses become positively correlated to equities?

Falling US real yields and **Fed rate cuts made USD a more attractive funding currency for carry trades**, so it weakened in times of risk-on – a topic [we wrote about in more detail](#) earlier in the year. The building inverse correlation of USD and equity markets became embedded in models, meaning that trading decisions were increasingly being made based on that relationship. Fundamentally, we saw that USD became a favored funding currency for US corporates, even though borrowing in euros was still cheaper.

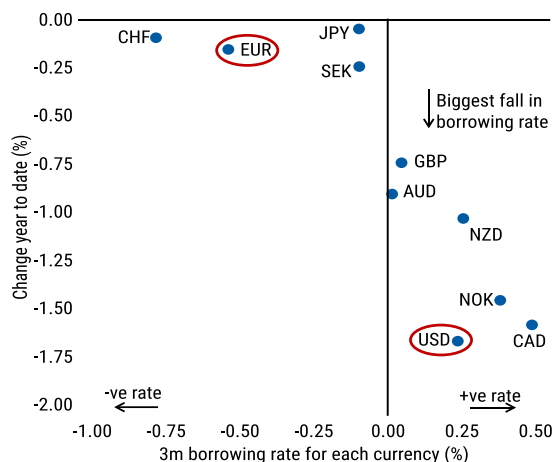
Exhibit 24: US corporates opted to borrow in USD in 2020

Source: Bloomberg, Morgan Stanley Research

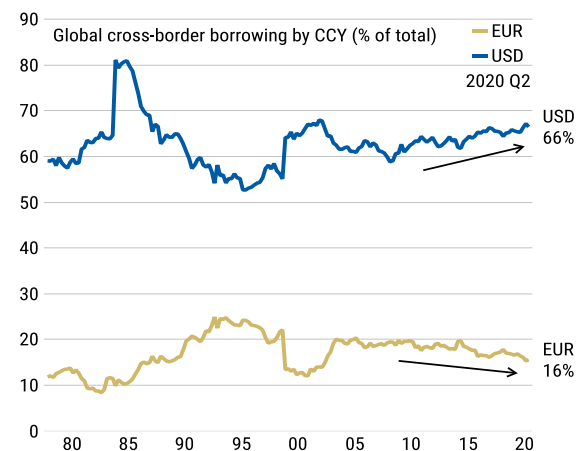
Exhibit 25: Non-US corporates have been the major borrowers of EUR in the past year

Source: Bloomberg, Morgan Stanley Research

In 2021, could there be a scenario where EUR becomes used as a favorable funding currency again? A funding currency is chosen typically if the interest rate is low and the currency borrowed is expected to stay stable or weaken. In 2020, the Fed cutting USD rates, USD weakening and the Fed calming corporate credit markets through its ETF purchase program made it most favorable for US corporates to borrow in USD over EUR (see [Exhibit 24](#)).

Exhibit 26: USD interest rate is high versus EUR but has fallen the most in the G10 this year

Source: Macrobond, Bloomberg, Morgan Stanley Research

Exhibit 27: International borrowing in USD has been rising for the past decade

Source: Macrobond, Morgan Stanley Research

Should US rate expectations rise in 2021 due to the vaccine distribution and strong global growth, bringing forward Fed rate hikes, while the ECB keeps rates on hold, then on the margin USD could become a less favorable funding currency. FX market participants may remember the scenario in early 2019 when USD rates were almost 3% above EUR rates, meaning US corporate issuance in EUR was large and put downward pressure on EUR/USD even in times of risk market support. Short EUR/EM became a popular trade, resulting in a stronger EUR/USD in risk-off in early March 2020.

ECB policy may also be important in determining whether EUR becomes a favored funding currency again. The ECB's annual assessment of the [international role of the euro](#) suggested that the bank wants to keep monitoring the global attractiveness of the euro for debt, transactions (as the invoicing currency) and broad global usage. The ECB did not recently push back against the strengthening of EUR as this came along with stronger growth expectations. However, should the growth backdrop and inflation expectations weaken significantly, then the ECB may consider easing policies that make EUR an even more attractive funding currency. Our base case is for rates to remain on hold in 2021.

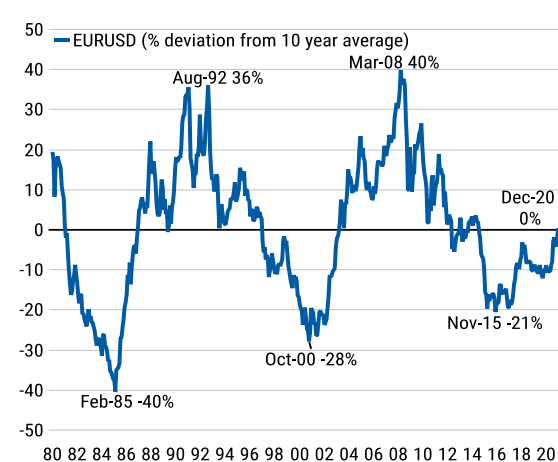
Growth trajectories? Past periods with an inverse correlation between EUR/USD and equities have occurred when EUR/USD was rising but also when it was falling (see [Exhibit 22](#)). Growth expectations in the eurozone relative to the US may be the driving factor for the direction of EUR. In the coming year, the markets expect eurozone GDP to pick up from -7.4%Y (expected in 4Q20) to +4.6%Y at the end of 2021, which is a faster rise in growth than expected for the US (see [Exhibit 28](#)).

A reason for EUR to weaken while risk markets performed well in the past related to US growth outperforming the rest of the developed markets, leading to investment inflows into the US. Should there unexpectedly be a hard Brexit, eurozone political uncertainty or just a general growth slowdown in the eurozone that isn't impacting the US, then it is possible to see EUR/USD falling while the US equity market is rallying. One other reason could come from the US side, with US fiscal stimulus encouraging inflows into USD more than the eurozone. We expect the opposite currency reaction in our base case.

Exhibit 28: Market expects stronger EUR/USD and faster rise in US versus German yields

2020 median market expectations			
	Spot/Latest	End-2021	Change
EUR/USD	1.22	1.24	1.6%
GBP/USD	1.35	1.36	0.7%
German 10y	-0.58	-0.33	0.25
UK 10y	0.29	0.49	0.20
US 10y	0.92	1.24	0.32
S&P 500	3695	4035	9.2%
Eurozone GDP (% YoY)*	-7.4%	4.6%	12.0
US GDP (% YoY)*	-3.5%	3.9%	7.4

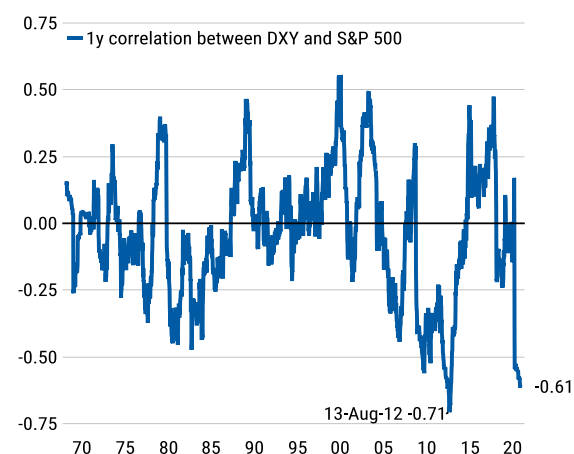
Source: Bloomberg, Morgan Stanley Research

Exhibit 29: EUR/USD at the long-term average in an appreciating leg of the cycle

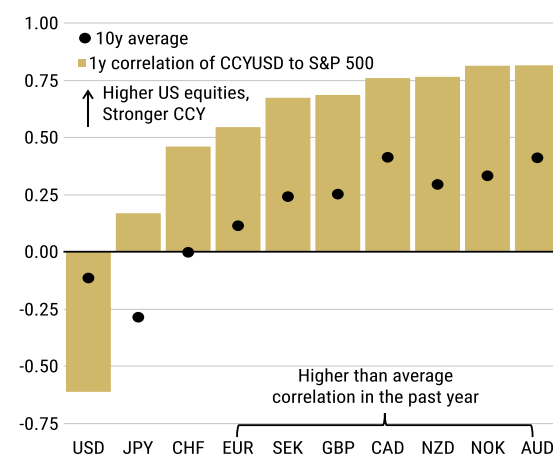
Source: Macrobond, Morgan Stanley Research

How could other European currencies respond? Our cross-asset strategists forecast that we are still in early-cycle, expecting cyclical stocks to do well in the coming months. EUR is starting to act like a cyclical currency, rising in times of stronger growth. In the past year, most other G10 currency crosses versus USD have also seen a higher-than-average correlation with equities (see [Exhibit 31](#)). NOK and SEK in particular in Europe would likely retain their high correlation with equities, irrelevant of EUR's direction.

The DXY USD index correlation with the US equity market has reached close to an extreme low (see [Exhibit 30](#)), which is why we are considering a market surprise as a reduction or reversal of that strong correlation.

Exhibit 30: USD's inverse correlation with equity markets close to an extreme

Source: Macrobond, Morgan Stanley Research

Exhibit 31: Most G10 currency/USD crosses have had a higher-than-average correlation with equities

Source: Macrobond, Morgan Stanley Research

What else did we consider as potential surprises for 2021? As market consensus is for global growth to stay strong, equities to move higher, USD to weaken and EUR to strengthen, our discussions around surprises naturally were on the more risk-negative side. We focused on European risk events rather than COVID-19 evolution, as the latter is more widely discussed.

- GBP: No-deal Brexit (market issue but less of a surprise).
- GBP: Likelihood of Scotland wanting another independence referendum vote in the event of the SNP winning more seats in the May Scottish Parliament election. The UK government would need to approve this, which we see as unlikely in 2021.
- GBP: Bank of England raises rates to stop GBP depreciation.

- EUR: ECB cuts rates as inflation expectations don't rise.
- EUR: Trade tensions build between the EU and US as the EU imposes taxes on tech companies (digital taxes are expected, with the OECD to continue debating a global tax framework).

- SEK: Riksbank starts to become worried about currency strength, cutting rates to - 50bp.
- SEK: Riksbank concludes that it should issue a digital currency and distribute directly to the public without requiring an intermediary bank (Sweden to conclude its investigations into this by November 2022).

- CHF: SNB stops intervening in the currency due to external pressure on the risks of a growing balance sheet. Asset purchases have helped global risk markets so would be important for CHF and broader markets.

Surprise #6: Immigration causes northern lights to shine brightest

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Will strong migration flows make Canada the surprise G10 growth outperformer?

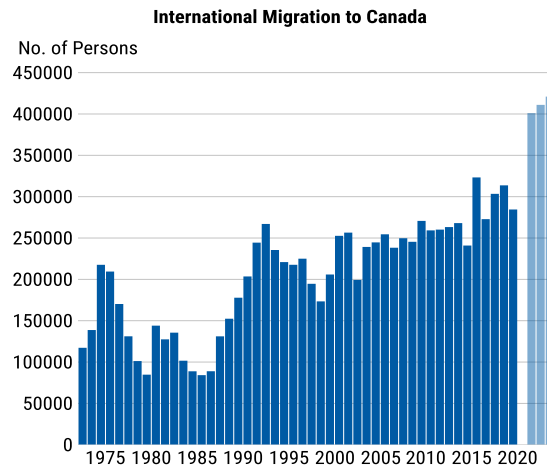
We think that Canadian migration is a key upside risk which may generate significant upside data surprises to a bearish market. Between pent-up migration from migrants unable to travel in 2020 due to COVID-19 border closures and the government's 400,000 migration target for 2021, we think that Canada's labor force could see meaningful growth, propelling employment growth, consumption, and shelter demand, and perhaps raising the BoC's estimate of potential growth, a potentially hawkish event. This would be a CAD-positive surprise for a market that remains overly bearish on the Canadian outlook.

One key factor we are watching closely in the dollar bloc – which we think the market is overlooking – is the **potential for Canadian economic outperformance in 2021 driven by migration**. Significant migration flows could have positive impacts on local economic data, potential GDP growth, and the neutral interest rate, and thus could also generate more hawkish BoC policy. They could also raise the attractiveness of Canadian assets to foreign investors, which would be particularly positive for CAD.

We think this is important because, based on our conversations with investors, **we think there remains a generally bearish view of the Canadian growth outlook, particularly among local investors**. We think that immigration could present an upside risk to [our economists' base case for growth \(which is in itself above consensus\)](#).

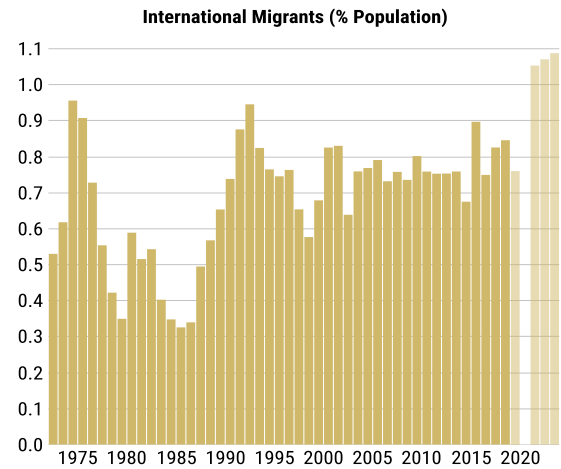
International migration is a key driver of population growth in Canada. [Exhibit 32](#) and [Exhibit 33](#) show historical and forecast net migration to Canada both nominally and as a percentage of the total population. Since the late 1980s, migration has contributed to nearly 1% of the population on an annual basis. Migration is an important driver of population growth, particularly as the domestic population ages rapidly. As [Exhibit 34](#) shows, Canada's dependency ratio is forecast to rise 14 percentage points over the coming decade as the number of retiring Canadians increases rapidly relative to the labor force, the highest in the G10.

Exhibit 32: The Canadian government forecasts the highest immigration target on record



Source: Macrobond, Morgan Stanley Research; Note: Light-shaded figures are government targets.

Exhibit 33: Immigration is forecast to top 1% of the population per year

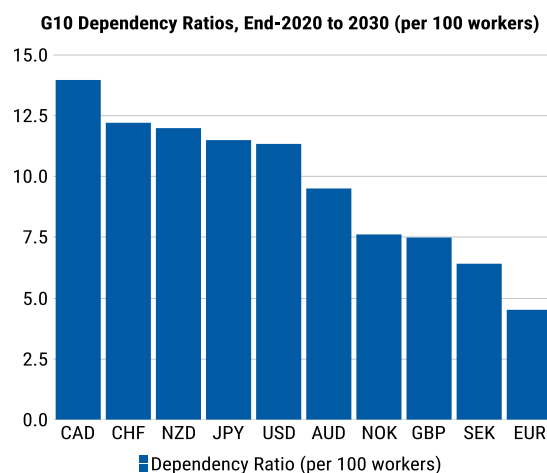


Source: Macrobond, Morgan Stanley Research; Note: Light-shaded figures are government targets.

There are a few things worth highlighting about the immigration outlook. First, as noted in [Exhibit 32](#) and [Exhibit 33](#), **net migration is slated to increase**, as per the government's [recently announced migration policy](#) through 2023.

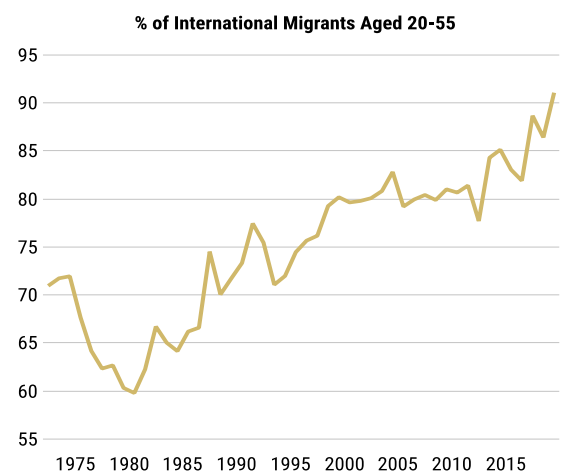
But when we're thinking about potential growth and the labor market, **it's not just the size of migration that matters, it's also the composition**. As the [government notes](#): 26% of Canadian workers are immigrants; labor force participation among Canadian immigrants is 76% compared to 65.5% for the nation as a whole in February 2020; over 50% of immigrants had a university degree, compared to nearly 30% for the [country as a whole](#); and more than 90% of Canadian migrants are prime working age (20-55, see [Exhibit 35](#)).

Exhibit 34: Canada's population is aging the fastest in the G10 relative to the forecast labor force



Source: Macrobond, Morgan Stanley Research

Exhibit 35: More than 90% of Canadian immigrants are prime working age



Source: Macrobond, Morgan Stanley Research

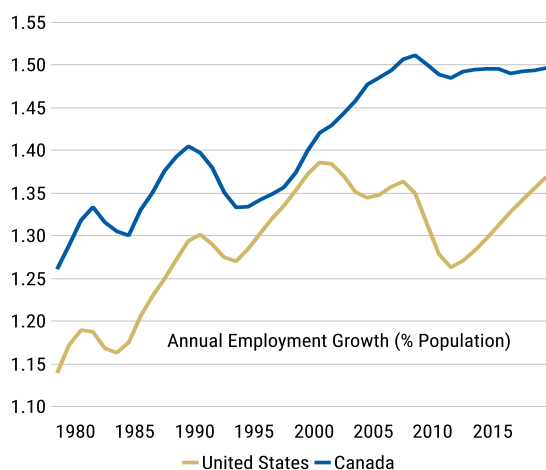
The impact of migration is clearly evident in Canadian payroll data, for example (see [Exhibit 36](#)). Growth in employment relative to the population averaged nearly 1.5% per year, compared to closer to 1% in the United States.

We think that the migration story could end up generating an upside economic surprise for Canada, supporting CAD. The 2021 macro backdrop is likely to be one characterized by: 1) Low nominal yields globally; 2) Elevated risk sentiment amid a return to normalcy post-COVID-19; and 3) Ample global liquidity, fueling reach-for-yield and reach-for-returns behavior. We think that foreign investors looking for returns will quickly take notice if a country's macro data are surprising to the upside.

One potential source of upside surprise is what we call 'pent-up migration'. While the government has raised its targets for migration into 2021 and beyond, it had [previously been targeting](#) migration of 350,000 people in 2020. However, COVID-19 had resulted in many countries closing their international borders and vastly reducing international travel – including Canada. This process saw the number of both residents and non-residents entering Canada fall to nearly zero (see [Exhibit 37](#)).

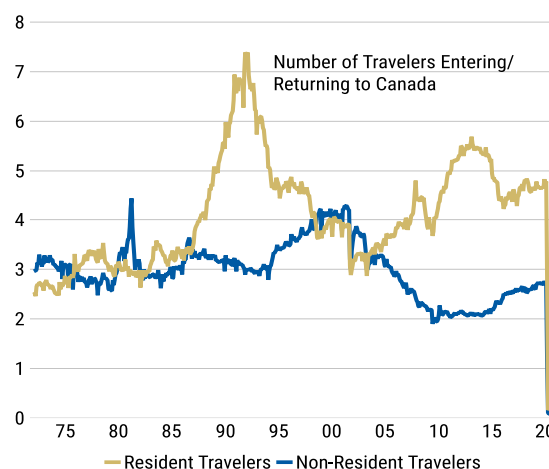
So, we posit this question: will those 350,000 migrants originally targeted for 2020 be entering Canada in 2021 once the border restrictions are lifted – on top of the 401,000 migrants set to be approved for 2021? Population growth to the tune of 700,000-800,000 new residents, nearly all of whom statistically tend to be prime working age individuals and who by and large have higher skill-based productivity than the national average, could have meaningful impacts on things like labor force growth, consumption, and shelter demand.

Exhibit 36: Canadian employment growth relative to population is consistently higher than the US



Source: Macrobond, Morgan Stanley Research

Exhibit 37: COVID-19 border closures have restricted migration, creating scope for potential pent-up migration in 2021



Source: Macrobond, Morgan Stanley Research

And, of course, what of the BoC? Migration doesn't in itself generate a more hawkish response via the inflation channel because migration of potential workers brings both higher demand and higher supply. So we're not overly concerned about higher inflation, though it's something to keep an eye on. Rather, the transmission channel here might be through higher potential growth and a higher neutral rate. If the neutral rate is rising (which the BoC estimates in its quarterly Monetary Policy Reports), then that means the current stance of policy is more accommodative, all else equal. Thus, if population growth is raising estimates of potential growth (particularly if the BoC is incorporating the higher level of trend migration into its estimates), then it might be more likely to taper and/or hike rates sooner to prevent higher inflation.

We expect CAD-supportive immigration flows to operate in the background as a factor affecting the medium-term outlook. However, a potential catalyst for CAD strength would be an expression of BoC concern about upside inflation risks materializing as a result of robust net immigration. We think that this dynamic could become a central part of the market narrative around Canada, particularly if such a declaration from the BoC follows repeated good news in job market data and surges in [population data](#) from Statcan.

Surprise #7: Long CNH/JPY is derailed by JPY becoming an asset currency

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JPY remains a funding currency, but will it stay that way?

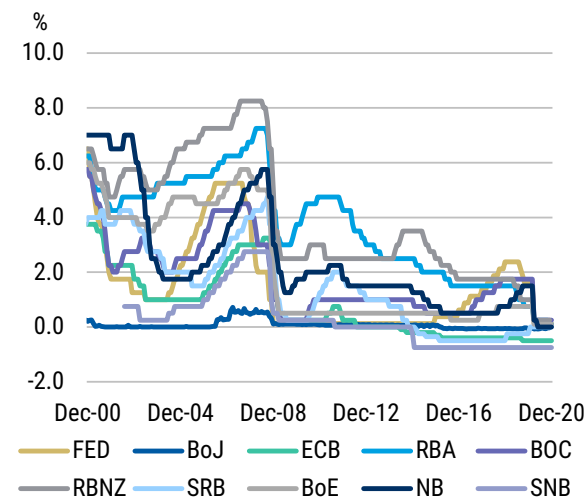
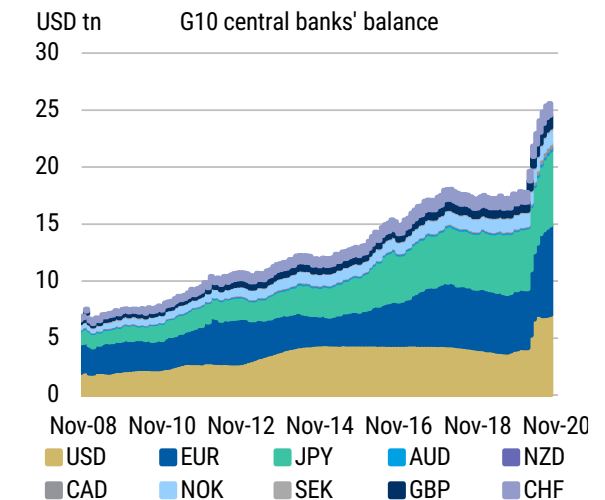
Long CNH/JPY relies on JPY remaining a funding currency. The surprise for JPY is that it may turn from being a funding currency to an asset currency. If the global economic recovery continues and cyclical stocks continue to outperform, investors may see value in cheap Japanese equities as well. With limited appetite for capital exports from the domestic side in a globally lower yield environment, overseas inflows to Japanese assets may push JPY to strengthen even under a risk-on environment, and JPY may outperform across G10 currencies.

Meanwhile, the surprise for CNY could be on both sides. Strong exports could push USD/CNY to reach 6.0, with a nod from the PBOC. On the other hand, USD/CNY could reach 7.0 should China's double tightening reverse investors' bullish view and US-China tension flare up again.

JPY surprise: Turning from a funding currency to an asset currency

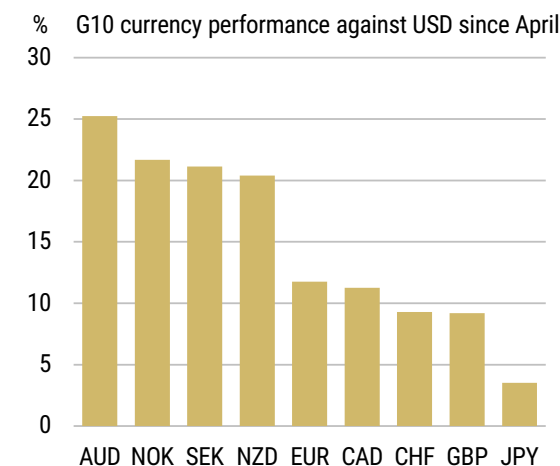
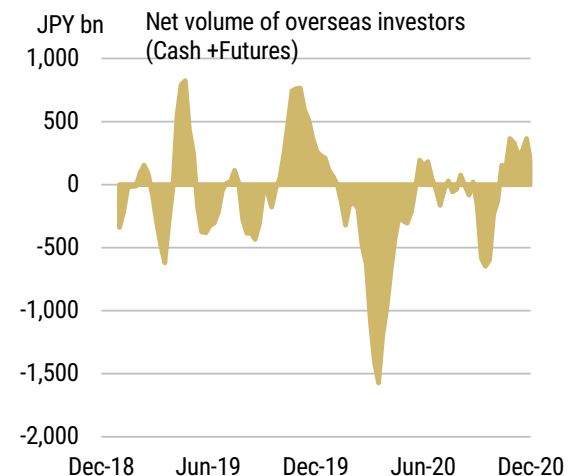
Long CNH/JPY relies on JPY remaining a suitable funding currency. As discussed in [What Is the Best Safe-Haven Currency?](#), the yen has for some time now satisfied the three basic requirements for 'funding currency' status, with (1) JPY rates expected to remain low for the foreseeable future, (2) the yen capable of being used for global settlement purposes, and (3) yen liquidity in ample abundance.

That said, the yen's 'comparative advantage' vis-à-vis (1) and (3) does appear to have diminished as central banks the world over have cut their policy rates to around zero (see [Exhibit 38](#)) and supplied liquidity via expansion of their balance sheets (see [Exhibit 39](#)). The US dollar in particular has clearly gained favor as an alternative funding currency, with the net upshot being that JPY has strengthened against USD as the greenback has faced selling flows due to a global economic recovery.

Exhibit 38: G10 policy rates have converged to 0%

Exhibit 39: G10 central banks have injected massive liquidity since the COVID-19 outbreak


The yen has of course underperformed cyclical currencies and other investment currencies as the global economy has bounced back from the initial COVID-19 crisis, suggesting that JPY continues to be viewed as a funding currency by those buying non-USD currencies (see [Exhibit 40](#)).

However, if global interest rates remain low and USD continues to be perceived as a funding currency, then the yen could conceivably start to be viewed as an investment in its own right and face stronger buying flows. Such a scenario might become more plausible if cheap Japanese cyclical stocks begin to attract greater inflows from abroad amid hopes for economic policy under the Suga administration.

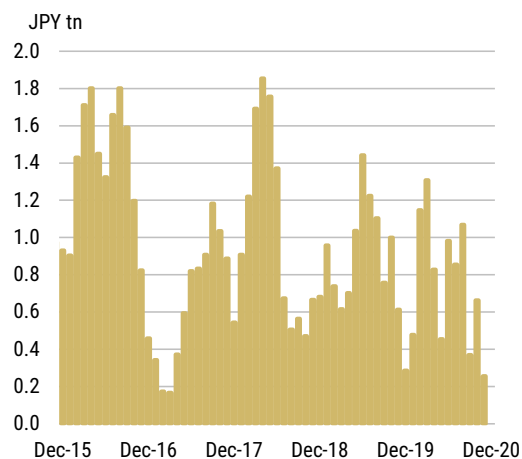
Exhibit 40: JPY has underperformed most G10 currencies except for USD

Exhibit 41: Inflows to Japanese equities from overseas investors have increased since this November


Foreigners have until now tended to fund their purchases of Japanese equities either by borrowing yen directly from investors or by using FX swaps for yield-enhancement purposes. However, with FX swaps no longer attractively priced from the perspective of USD-funded investors, some players might now see an incentive to buy JPY outright in anticipation of the greenback continuing to weaken. We started to see the evidence of Japanese equities being in particularly high demand overseas from this November, and statistics show foreigners having switched from net sellers to (modest) net buyers (see [Exhibit 41](#)).

Switching our focus to Japanese investors, we note that outward portfolio investment by life insurers and other institutional players has been having less of an impact as overseas interest rates have fallen, with direct investment outflows also dwindling as the COVID-19 crisis continues to take its toll (see [Exhibit 42](#) and [Exhibit 43](#)). This suggests that recent drivers of JPY underperformance might be starting to dissipate.

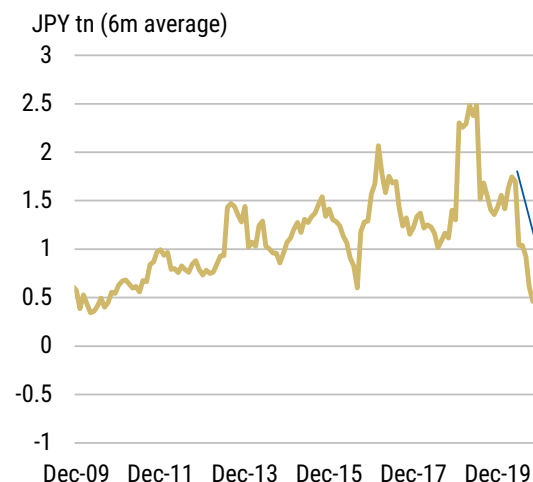
If the yen does start to be favored by overseas players as an asset currency against a backdrop of global economic recovery, then it might be more likely to outperform not only USD but also other G10 currencies during risk-on phases. Market participants already appear mindful of the risk that greenback weakness might drive USD/JPY lower, but we still see scope for a surprise if the yen should indeed become one of the best performers when risk sentiment turns positive.

Exhibit 42: Net purchases of foreign assets by Japanese non-FX-hedged investors have slowed down recently



Source: BoJ, Mof, Morgan Stanley Research; Note: Non-FX-hedged investors defined as pension funds and lifers.

Exhibit 43: Japan's FDI investment has slowed down significantly since the COVID-19 outbreak



Source: BoJ, Mof, Morgan Stanley Research

CNH surprise: Two-sided risks

The surprise for CNY in 2021 could be on both sides: Our bullish CNY view is shared by most investors and the reasons to be bullish are also well understood, such as a strong current account surplus, significant portfolio inflows and reduced tension between the US and China. In other words, USD/CNY is likely to move lower as our base case (6.40 in early 2021). However, it could surprise investors in 2021 and we see two-sided risks:

USD/CNY to reach 6.0... The strongest level of USD/CNY since the currency reform in 2015 was 6.25 in early 2018, a level unlikely to be broken in investors' view, given that 2018 also saw EUR/USD reaching 1.25. In other words, USD/CNY is unlikely to trade below 6.25 unless EUR leads the broad USD weakness. However, CNY could surprise investors in 2021 by outperforming its peers.

...supported by strong inflows: Exports remain very strong. Actually China's exports as a percentage of global exports are reaching their highest level in the past few decades. While there could be normalization in the next few months, China's exports could continue to be strong should the production resumption in the rest of the world be slow. The natural inflows would push CNY stronger. On the other hand, the PBOC seems to be comfortable with a stronger CNY as long as the move is orderly. However, it would surprise investors should the PBOC allow USD/CNY to reach 6.0. In CFETS terms, it would be above the peak in 2015 (see [Exhibit 45](#)).

Exhibit 44: China's exports in 2020 have been very strong (US\$bn)

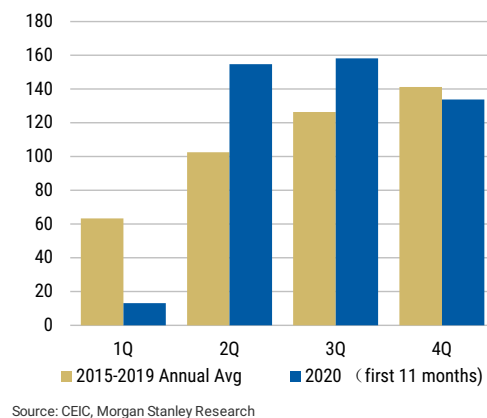
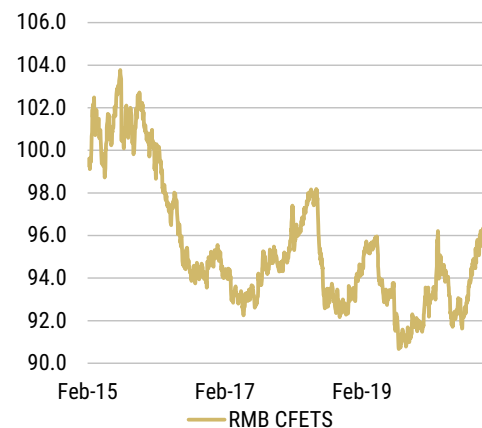


Exhibit 45: The CNY NEER basket could reach 104 should USD/CNY reach 6.0



USD/CNY to reach 7.0: The risks could come from both internal and external factors. Internally, many investors still remember the double easing early this year when China faced a pandemic lockdown, which lifted China out of recession. In 2021, China should see double tightening: i) The fiscal deficit should decline as the government reduces its spending; and ii) The PBOC should continue to unwind its easing policies. [We don't believe that these measures will derail growth](#) but they could pose risks to the market.

China slowdown: The repercussion of double easing early last year was a significant increase in leverage as China's debt/GDP reached 300%. Hence, double tightening could lead to a rapid deleveraging and weigh on growth. And investors could unwind their bullish view on the Chinese economy and CNY.

US sanctions: Externally, investors' assumption is that US-China tension will improve under a prospective Biden presidency. It is true that President-elect Biden might not choose tariffs to push China to reform its trade policy further. He could be under pressure to be more hawkish on China on the geopolitical front, including sanctions on financial institutions. Such a surprise would likely lead to a rapid depreciation of CNY as the market prices in more risk premium.

Surprise #8: UK RPI legal challenges result in compensation

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Legal challenges cushion the wedge?

In [A Response to the Consultation on the Reform to RPI Methodology](#) published on November 25, 2020, the decision was made to not offer compensation following the February 2030 alignment of RPI and CPIH. However, our UK economics team anticipates that the decision to not offer compensation will face legal challenges. If those challenges appear like they might be successful, it may surprise the market to some extent in 2021 and potentially lead to some widening of longer-maturity breakevens and/or a steepening of the 10s30s UK inflation curve.

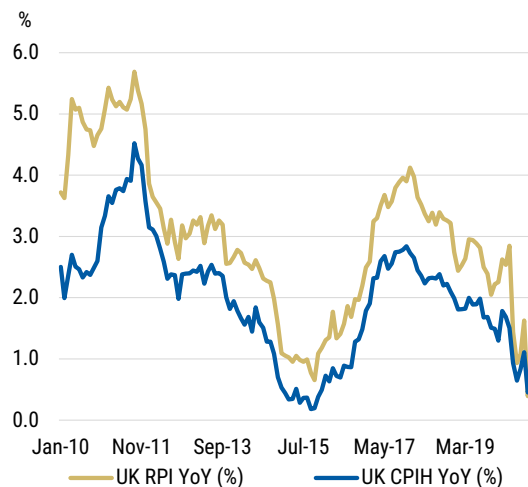
After a prolonged consultation period that involved multiple delays, the much-awaited decision on UK RPI/CPIH alignment post-2030 was delivered on November 25, 2020 in [A Response to the Consultation on the Reform to RPI Methodology](#).

Within the response, the UK Statistics Authority and HM Treasury concluded in section 12 that while "the vast majority of index-linked gilt holder respondents called for further mitigation for index-linked gilt holders in the form of compensation...The government will not offer compensation to the holders of index-linked gilts".

And thus, any hopes for a form of compensation that could cushion the impact of the RPI/CPIH wedge beyond February 2030 disappeared, or did they?

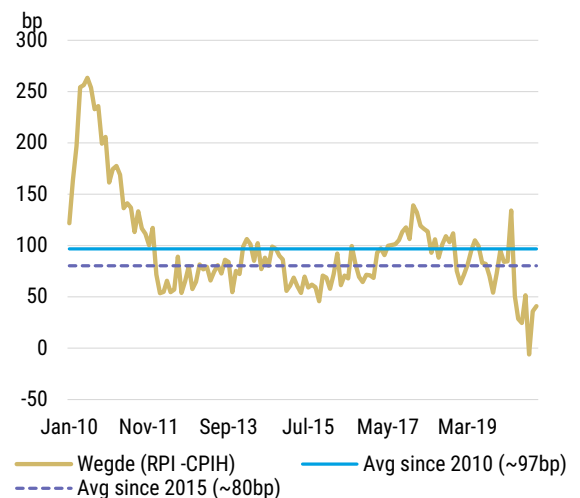
Heading into 2021, one possible surprise for the market could be that possible legal challenges to RPI/CPIH alignment appear as if they will result in the rewarding of some form of compensation for holders of UK linkers with maturities beyond 2030, thereby cushioning at least some of the wedge impact (see [Exhibit 47](#)).

Exhibit 46: UK RPI and CPIH (2010 to date, seasonally adjusted, YoY %)



Source: Haver Analytics, Morgan Stanley Research

Exhibit 47: RPI minus CPIH wedge (2015 to date) versus averages since 2010 and 2015



Source: Haver Analytics, Morgan Stanley Research

This view is best expressed in the words of our UK economics team in [SR20: Reactive Not Proactive](#):

"According to the consultation response, the Chancellor did not consent to implementation of the reform before the maturity of the final specific index-linked gilt in 2030, in order to minimise the impact on holders of index-linked gilts. Since the BoE then confirmed that linker holders would not suffer material detriment from the change, if reform implemented after 2030, **UKSA does not need to seek authority from the Chancellor and can proceed with the change. We assume that this convoluted process – making the statistical authority not the Chancellor responsible for the change – aims to minimise the risk of a successful legal challenge...**

...still, we would expect legal challenges, with some probability of them being successful and the government offering compensation in the end, leaving the RPI-CPIH wedge a positive if small number. In the event that the Treasury does offer compensation, we see fair value as around CPIH+50bp, i.e., the average RPI-CPIH wedge minus the 30bp wedge widening driven by the 2011 change in collection methodology."

So what could the impact be for UK inflation markets? Currently, the UK inflation swaps and cash breakeven curves (looking at 2028s versus 2048s) remain inverted relative to the 10-year part of curve.

While some of these factors contributing to the inversion are structural in nature, there is likely a portion that is due to an expectation that compensation for points beyond 2030 could be lower in the future based on the most recent RPI/CPIH decision.

We think that there is a possibility of some widening of longer-maturity breakevens and/or a steepening of the 10s30s UK inflation curve should there be signs in 2021 that a successful legal challenge may result in compensation above and beyond anything that may already be partially priced by the markets.

Exhibit 48: The UK inflation swaps curve remains inverted past 10 years to maturity following the RPI/CPIH decision

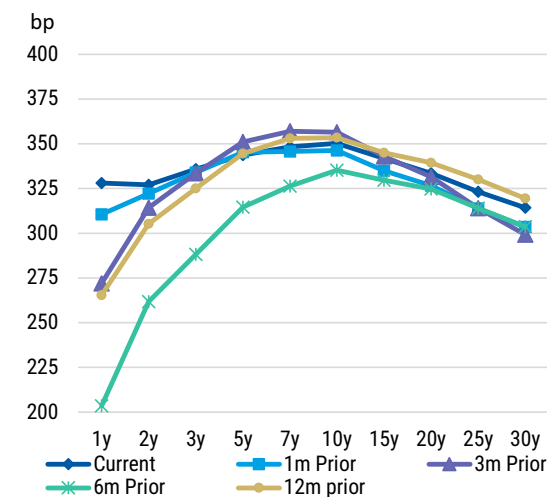
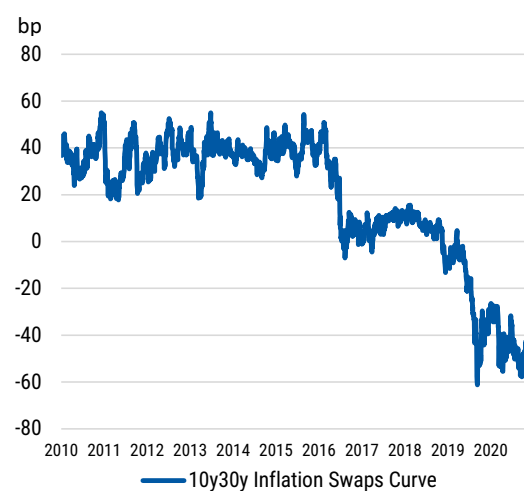


Exhibit 49: The UK 10s30s inflation swaps curve could steepen if legal challenges prove successful



Surprise #9: LIBOR-OIS dips negative

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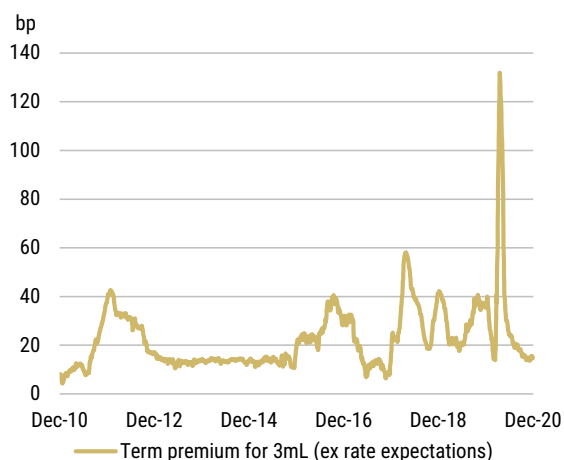
A perfect storm could result in negative LIBOR-OIS

If a two key events occur simultaneously, LIBOR-OIS could briefly dip into negative territory. First, T-bill-OIS would need to widen to -6bp to -8bp, which essentially means that T-bills trade near or at 0bp (or dip briefly into negative territory), while EFR (and OIS) remains stable at 8-9bp (or richens only 1-2bp). While we think T-bills will richen with significant paydowns next year, it is less clear that T-bill-OIS will widen by that much, as EFR would likely also move lower.

Second, the TED spread, as measured by 3mL - 3m T-bill, needs to continue to compress toward all-time lows of 8.5bp. Under this "perfect storm" of events LIBOR-OIS could feasibly trade negative; however, even then, it would likely not persist in negative territory. Should this happen, we also think front-end spreads would also trade negative.

With rate expectations in the front end essentially flat and fixed, the term premium of 3mL has been driving the rate. Over the last few months, term premium of 3mL has compressed substantially (see [Exhibit 50](#)). In fact, the current level of 3mL term premium (over ON LIBOR) is below the median for the last 1, 5 and 10 years (see [Exhibit 51](#)).

However, we think there is room for the term premium to compress even further, in a perfect storm of conditions. Though the current level of term premium is lower than the medians over the last 1, 5 and 10 years, it is actually still above the minimum value seen in the those time periods. Perhaps even more notable, it is well above the minimum level seen in any ZIRP regime (14.9bp versus 0.7bp).

Exhibit 50: 3mL term premium – measured as (3mL - ON LIBOR)-(3m OIS - EFR)

Source: Bloomberg, Morgan Stanley Research

Exhibit 51: 3mL term premium measured over different time horizons

	Minimum level of 3mL term premium	Median level of 3mL term premium
Current	14.9bp	14.9bp
Last 1y	13.7bp	21.0bp
Last 5y	6.4bp	24.2bp
Last 10y	4.3bp	18.5bp
ZIRP	0.7bp	14.1bp

Source: Bloomberg, Morgan Stanley Research

LIBOR-OIS can be deconstructed into (3m T-bill - OIS) + (3m LIBOR - 3m T-bill). We will refer to the latter term as the TED spread. As such, as we first noted in [Negative LIBOR-OIS Ahead?](#), in order for LIBOR-OIS to go into negative territory, two key things need to happen:

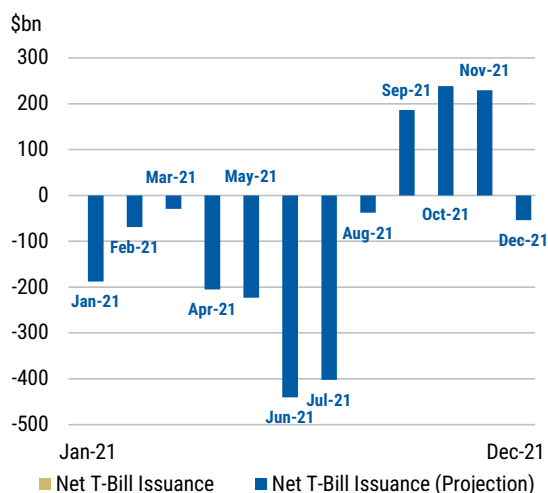
- 1. 3m T-bill-OIS widens significantly, to at least -6bp to -8bp:** It would be difficult for 3m T-bill-OIS to widen much beyond that as long as OIS remains in the 8-9bp range, as that implies T-bills move into negative territory. While T-bills can trade negative, it is difficult for them to persist in negative territory given that MMFs and other buyers of T-bills can shift allocations (for example, MMFs could leave cash at the Fed, earning ON RRP). Should EFR fall below 8-9bp by a decent amount, 3m T-bill-OIS widening to -6bp to -8bp is increasingly unlikely.
- 2. Compression of the 3m TED spread to or near all-time lows:** This spread generally reflects the attractiveness of government versus prime MMFs. We suggested in [In an Emergency, Break Glass](#) that this spread would likely never go below 6bp, as that is, on average, the difference between institutional prime MMF and institutional gov MMF expense ratios. Since that piece, the difference between expense ratios has narrowed, perhaps even reducing the floor of the TED spread further. If you then consider the other characteristics that make a prime MMF less attractive, such as redemption fees and liquidity fees, it seems reasonable that the lower bound on the TED spread could be even a few bp higher, perhaps reaching 8bp. If the spread were to compress below 6-8bp, you would likely see a large rotation out of prime funds and into government funds, reducing prime AUM and therefore CP demand (as well as increasing gov AUM and therefore T-bill demand). Hence, the spread would widen further. Indeed, since MMF reform, the lowest this has gone in the last five years is 8.5bp.

So, what could lead to these two events?

Let's begin with event # 1, the extreme richening of T-bills. Currently, 3m T-bills are trading roughly in line with 3m OIS. In 2021, however, we expect significant T-bill paydowns. Even with US\$1 trillion of stimulus baked into issuance forecasts, we project ~US\$1 trillion of T-bill paydowns (see [Exhibit 52](#)). Paydowns will be the most extreme in size leading into the August 1, 2021 debt-ceiling deadline, as the Treasury has to draw the TGA down to ~US\$200 billion by the deadline.

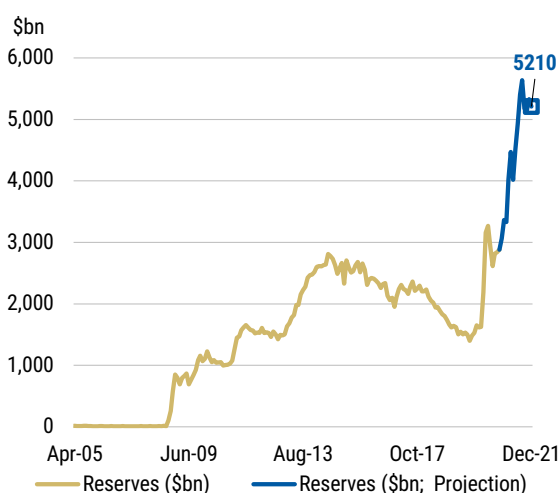
As such, we expect that a reduction in supply could lead to a sharp richening of T-bills. Furthermore, we expect demand for T-bills to increase in 2021. With continued Fed purchases of US\$120 billion/month (US\$80 billion UST and US\$40 billion MBS), reserves will continue to grow. Furthermore, a reduction in the TGA to ~US\$800 billion by end-2021 (and even lower at certain points in the year) would only lead to a larger increase in reserves (see [Exhibit 53](#)). In fact, we expect reserves to end 2021 over US\$5 trillion. So, our base case is that T-bills are very likely to richen (see [2021 Outlook](#)).

Exhibit 52: Projections of T-bill issuance in 2021 (US\$bn)



Source: Morgan Stanley Research estimates

Exhibit 53: Projections for the level of reserves in 2021



Source: Morgan Stanley Research estimates

So perhaps the larger "surprise" would occur if the TED spread compressed enough such that LIBOR-OIS dipped into negative territory. In the [2021 Outlook](#), we wrote that our base case is for LIBOR-OIS to trade relatively range-bound in the low- to mid-teens in 2021, with risks toward both widening and tightening. This implies that our base case for the TED spread is modest widening (to offset richening of T-bills, resulting in a stable LIBOR-OIS).

However, we can envision a scenario in which the TED spread compresses alongside T-bill richening. On the demand side, while we expect reserves to increase (some of which will presumably end up in MMFs), we expect cash to flow into both gov MMFs and prime MMFs, so this shouldn't be a differentiating factor for the TED spread. In fact, if anything, it seems more likely that more cash would go into gov MMFs, further widening the TED spread. So, it could come as a surprise – though it is not entirely out of the question – that inflows are stronger to prime MMFs than gov MMFs, leading to potential tightening of the TED spread.

On the supply side, though, it is possible that supply shrinks substantially, driving the TED spread tighter. In a recent Senior Financial Officer Survey (discussed more in depth in [Clash of the Titans](#)), 30 domestic banks and two foreign banks stated that they would intentionally allow outstanding term funding (i.e., CP and CDs) to mature without renewing these sources of funding in order to reduce their own level of reserves.

Exhibit 54: Most likely actions (ranked 4-5 on a scale of 1-5) that would be pursued to actively reduce the level of reserves for the 35/46 domestic and 2/34 foreign banks who stated they would take explicit action to reduce the level and/or growth rate in reserve balances

Action	Total	Domestic	Foreign*
ADJUSTMENTS TO ASSETS			
Increase lending in short-term unsecured money markets (for example, fed funds)	7.1	7.4	0.0
Increase lending in short-term secured money markets (for example, UST reverse repos)	39.4	35.5	100.0
Increase holdings of other Level 1 HQLA (i.e., Treasury securities)	62.1	60.0	100.0
Increase holdings of non-Level 1 HQLA securities (i.e., MBS or corporate bonds)	70.6	72.7	0.0
Increase holdings of other non-HQLA assets	36.4	38.8	0.0
ADJUSTMENTS TO LIABILITIES			
Decrease advances from FHLBs	60.0	60.0	N/A**
Decrease retail deposit base by offering lower rates	47.1	47.1	N/A**
Decrease overnight wholesale liabilities by offering lower rates	56.0	52.2	100.0
Allow outstanding term wholesale funding liabilities (i.e., negotiable CDs or CP) to mature without replacing them	87.5	86.7	100.0
Decrease wholesale deposit base by imposing fees on balances	12.5	12.5	N/A**

Source: Federal Reserve, Morgan Stanley Research; *This set of questions only had two foreign respondents, as an overwhelming 94.1% of foreign banks said they did not intend to take specific actions to adjust the level and/or growth in reserve balances, and thus, were ineligible to answer the questions; **N/A indicates no responses were submitted for this subsection of the question.

While this would undoubtedly lead to a reduction in overall CP if actualized, the question remains what would the effect be? Financial CP markets are dominated by foreign, not domestic, issuance. So, if domestic banks are the only ones to reduce issuance, it may not have a huge impact on the margin. However, if foreign banks follow suit, and all financial CP supply falls, that could be the catalyst for TED spread tightening.

On the whole, while not our base case, we would not be entirely surprised to see LIBOR-OIS tighten enough that it dips into negative territory briefly. We think this would come as a surprise to the broader market consensus. In order for this to occur, 3m T-bills would need to trade near or at 0bp (or potentially even dip into negative territory), simultaneous with an extreme compression in the LIBOR term premium and TED spread near or at all-time lows (which is 8.5bp). And EFRR (and OIS) mustn't fall below 8-9bp, as that would constrain the amount that T-bill-OIS can widen to. In the event that LIBOR-OIS goes negative, front-end swap spreads will also likely trade negative. In fact, that could preempt a move of LIBOR-OIS into negative territory.

Lastly, we find it worth mentioning that should LIBOR-OIS trade negative, it would not be likely to persist.

Surprise #10: "Japanification" of US interest rate volatility

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A plausible path lower for US interest rate volatility

One major surprise to consensus in 2021 would be "Japanification" or a large compression of US interest rate volatility. In this section, we examine the events and conditions that led to Japan's low volatility surface, and discuss Europe's own movements in the same direction due to muted rate expectation volatility. It seems likely that Europe continues on the path of Japanification of interest rate vol. However, this occurring in the US simultaneously would be much more of a surprise. We think the increased reliance on central bank guidance, and additional implicit yield curve control through central bank purchases, could create a "surprise" scenario in which this dynamic plays out, leading to an outsized compression of US interest rate volatility.

However, we do not think this would necessarily result in a decline in US interest rates, as we have observed a possible shift in the normally positive relationship between term premiums and implied volatility, meaning rates might remain stable or move higher despite lower volatility. It is plausible – although not likely – that further anchoring of rate expectations by central banks could suppress rate expectations volatility, and offset the rise in term premiums. We think further implied volatility compression in the US is worth keeping an eye on as we head into 2021, as it could prove a favorable environment for gamma-selling strategies.

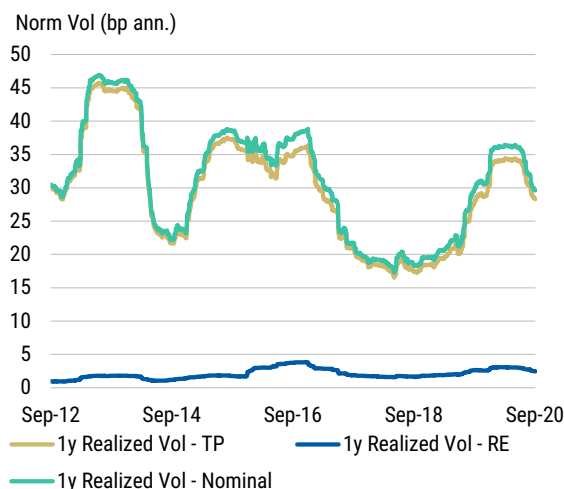
What is Japanification of vol? Why did it happen in Japan? In an economic context, Japanification refers to Japan's secular stagnation in the form of sluggish economic growth and anemic inflation, while from a bond market perspective it describes Japan's protracted phase of ultra-low interest rates and subdued volatility. So what is the background of this Japanification of the JPY rates market?

Before its economic bubble burst in early 1990, Japan had experienced strong economic growth, with adjusting policy rates having been the main tool of monetary policy. Afterwards, Japan faced an economic downturn and deflation for a prolonged period.

Although the BoJ cut the policy rate to near 0%, it has struggled to achieve its policy target since, and has been forced to maintain the policy rate near ZLB. Market participants now recognized that the BoJ was unlikely to start hiking rates any time soon, with the bank's adaptive (backward-looking) expectations formation mechanism meanwhile causing rate expectations – as priced into nominal interest rates – to remain anchored near zero.

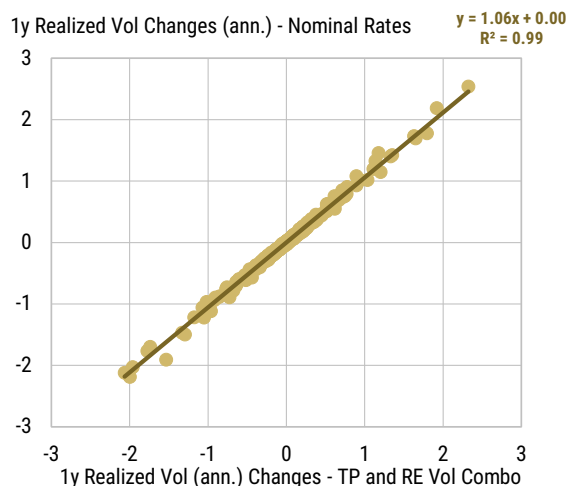
This basically left fluctuations in the term premium as the sole driver of JPY rates market action. Indeed, as shown in [Exhibit 55](#), 10y rate expectations volatility has played a minimal role in the total realized volatility of 10y JGBs. Muted realized volatility in rate expectations is one of the reasons why the volatility in JPY rates space has been relatively subdued, particularly in gamma space.

Exhibit 55: Decomposition of 10y JGB realized volatility into rate expectations and term premium



Source: Bloomberg, Morgan Stanley Research

Exhibit 56: Relationship between 10y JGB realized volatility and 10y JGB rate expectation and term premium

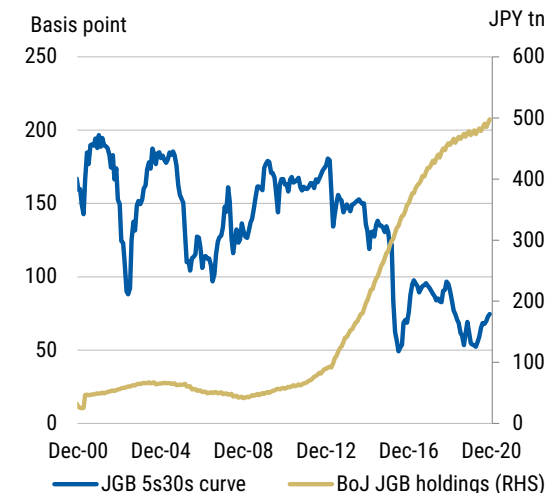


Source: Bloomberg, Morgan Stanley Research

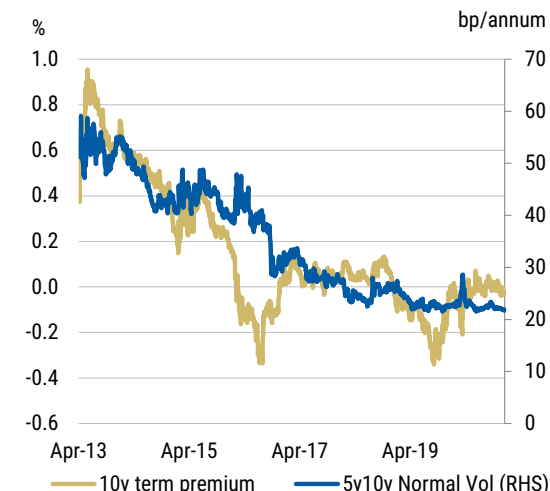
That said, the term premium is also likely to have played a role in keeping volatility low. The BoJ started to expand the monetary base via extremely large JGB purchases from 2013 onwards with a view to catalyzing stronger inflation expectations, but such efforts proved fruitless as the +2% price stability goal remained far out of reach, with the JGB yield curve ultimately facing bull-flattening pressure as abundant (indeed excessive) liquidity flowed into positive-yielding super-long bonds (see [Exhibit 57](#)).

This protracted phase of ultra-low interest rates is likely to have contributed to a decline in implied volatility as the "hunt for yield" caused many investors to short volatility (see [Exhibit 58](#)). This appears to have had the greatest impact in the vega sector, which was already facing strong structural selling pressure in relation to both structured deposits and callable bond issuance.

To summarize, declines in rate volatility appear to have been driven mostly by (1) the rates expectation remaining solidly anchored and (2) a "hunt for yield" catalyzed by ultra-low interest rate levels and abundant liquidity (reflecting the BoJ's massive JGB purchases). While Europe has trended towards a similar dynamic over the last decade, we think the US following a similar pattern would be a major surprise to consensus in 2021.

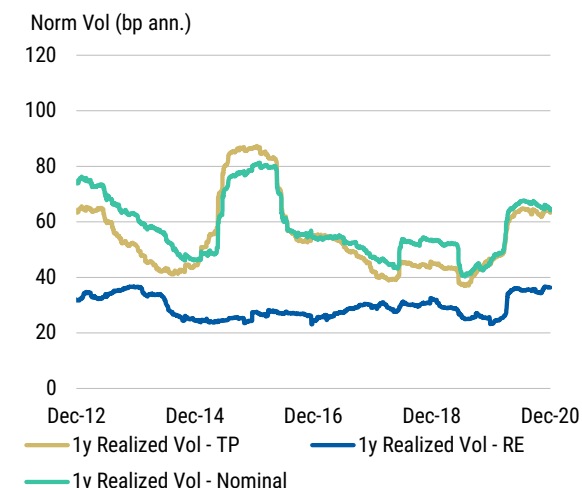
Exhibit 57: JGB 5s30s curve and BoJ JGB purchases


Source: BoJ, Morgan Stanley Research

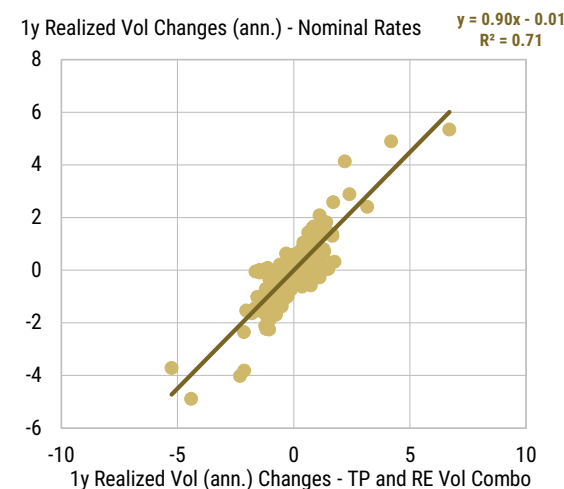
Exhibit 58: 10y JGB term premium and 5y10y implied volatility


Source: Morgan Stanley Research

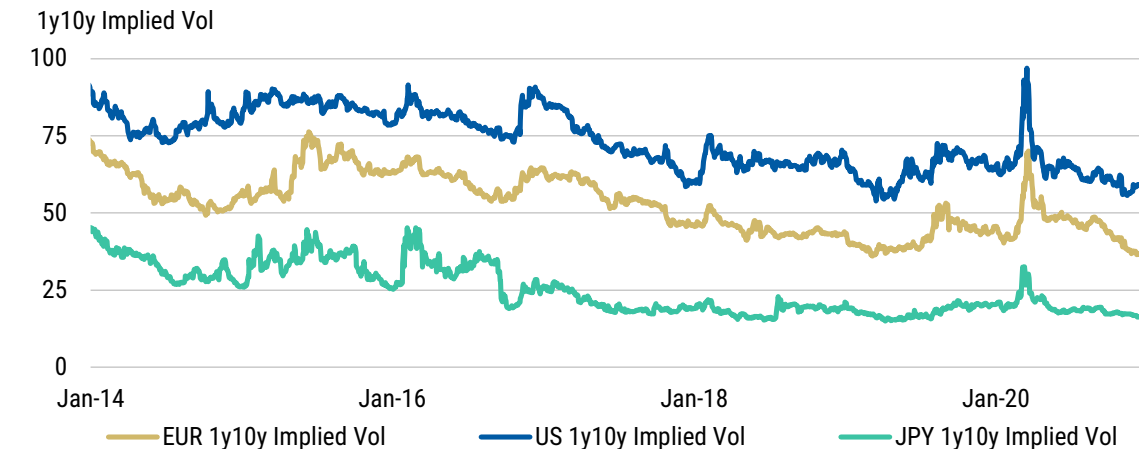
A similar story has begun to play out in Europe: As has been the case in JGBs, the realized volatility of 10y Bunds is largely driven by term premium rather than rate expectations (see [Exhibit 59](#)). Additionally, prior to the large spike in volatility earlier this year due to the COVID-19 pandemic, 1y10y implied volatilities had been broadly declining in Japan, the US, and Europe – a dynamic that has resumed, especially in Europe (see [Exhibit 61](#)). **We think further volatility compression in Europe could occur if rate expectation volatility remains low (and potentially drifts lower), while term premium compresses due to a hunt for yield and extended central bank purchases.**

Exhibit 59: Decomposition of 10y Bunds realized volatility into rate expectations and term premium


Source: Bloomberg, Morgan Stanley Research

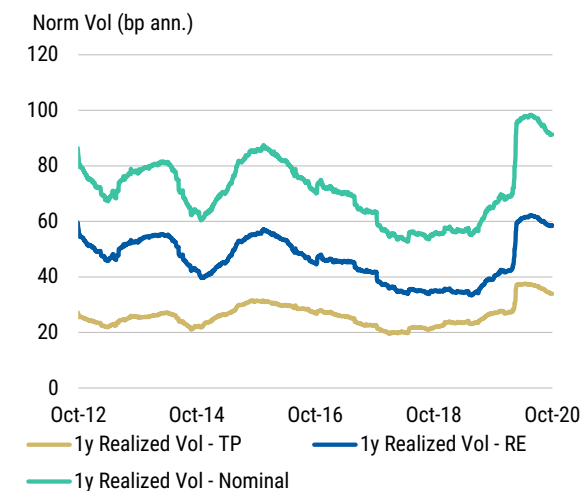
Exhibit 60: Relationship between 10y Bunds realized volatility and 10y Bunds rate expectations and term premium


Source: Bloomberg, Morgan Stanley Research

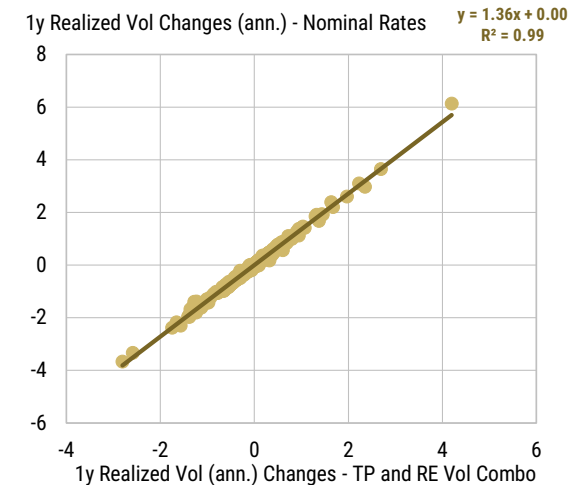
Exhibit 61: Overall decline in implied volatilities


Source: Bloomberg, Morgan Stanley Research

Could the US ever follow the footsteps of Europe and ultimately Japan? Historically speaking, realized volatility in the US has been driven more by rate expectation volatility than term premium volatility, unlike in Europe or Japan (see [Exhibit 62](#)). Despite this more even mix, we still see a very close fit between trailing realized volatility of 10y UST and the additive volatility of 10y UST term premium and rate expectations (see [Exhibit 63](#)). This additive volatility is calculated as $\text{SQRT}((\text{Vol of RE}^2) + (\text{Vol of TP}^2))$, as variance is additive, but volatility is not.

Exhibit 62: Decomposition of 10y UST realized volatility into rate expectations and term premium


Source: Bloomberg, Morgan Stanley Research

Exhibit 63: Relationship between 10y UST realized volatility and 10y UST rate expectations and term premium


Source: Bloomberg, Morgan Stanley Research

So, the question is what could change to reduce the impact of rate expectations on US volatility, leading to overall compression and Japanification of US vol?

We think that three factors could suppress US rate volatility next year:

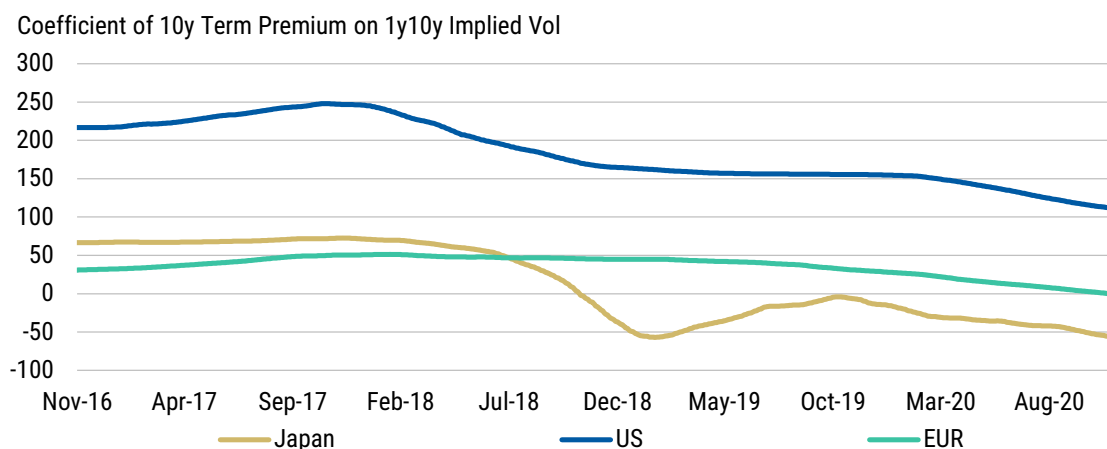
1. Anchoring of interest rate expectations further down the curve by central banks. This reliance on forward guidance of both policy rate changes and of asset purchases could lead market participants to become less reliant on economic data releases over the near term, causing rate expectations to remain stable in the face of economic surprises.
2. Increased implicit yield curve control (discussed in [Clash of the Titans](#)) through guidance and extended Fed purchases could lower the volatility surface, as it has historically in Japan. We think the 5y point of the curve currently has high implicit yield curve control and, if that extended further down the curve, it could suppress implied volatilities in longer-dated tails as well.
3. Any compression in term premiums could be countered by higher inflation/growth expectations, leading to muted term premium volatility and decreasing the overall US volatility surface.

Overall, however, we think any Japanification of US vol would only be likely to occur out to intermediate expiries – anything beyond that is unlikely to see the same compression in the US as in Japan and Europe given that we still expect rates to move at some point in the future.

Should this surprise occur, we think 2021 would be a good year for performance of systematic gamma selling strategies.

What would that mean for US interest rates? While we think Japanification of US interest rate volatility is plausible, albeit a surprise, we find Japanification of US rates very unlikely. Rather, what we think could occur is a breakdown between the historical relationship between term premium and volatility. Historically, higher term premiums have a positive relationship with implied volatility, which we believe is intuitive given the general positive relationship between interest rates and implied volatility.

Exhibit 64: Coefficient of 10y term premium (in %) on 1y10y implied vol



Source: Bloomberg, Morgan Stanley Research; Note: Parameters fit using a 3y rolling lookback window, with no intercept.

However, of late we have seen this relationship shift – in Japan, this relationship has been negative for the last few years, in Europe, the relationship has just shifted negative after declining over the last few years, and in the US, the positive relationship has declined, though it has yet to move into negative territory (see [Exhibit 64](#)).

Given our team's macro view that rates will trade higher in 2021, the real surprise would be if, in 2021, US term premiums rise, but US volatility does not, breaking what has been a reliable and stable relationship for many years.

While not likely, it is plausible that further anchoring of rate expectations by central banks would suppress rate expectations volatility, and offset the rise in term premiums. We think the increased reliance on central bank guidance could create a "surprise" scenario in which this dynamic plays out, leading to Japanification of US interest rate volatility (continued Japanification of European vol is not necessarily a surprise in our view). We think further implied volatility compression in the US is worth keeping an eye on as we head into 2021, as it could prove a favorable environment for gamma-selling strategies.

Bond Market Indicators

Our BMI(10) models remain neutral on Japan and New Zealand, and are moderately bearish on the remaining markets overall. The overall signal for the US is right below the neutral threshold of -1.5. Vol-adjusted carry remains broadly negative except in Australia and New Zealand. Momentum is negative across all markets aside from Germany, the UK, and a particularly bullish reading in Japan. Momentum in the US is particularly bearish with a reading of -10. Business cycle indicators are bullish in Germany and Japan, neutral in the US and Canada, and bearish in the remaining markets. Equity market signals remain bearish across the board, while FX signals are broadly mixed.

Our BMI(2) models are moderately bearish across all markets overall, aside from neutral readings for the US, Germany, and Australia. Vol-adjusted carry remains broadly negative except in the UK and Australia. Momentum is negative across all markets aside from Germany, the UK, and a particularly bullish reading in Japan. Momentum in the US is particularly bearish with a reading of -10. Business cycle indicators are bullish in Germany and Japan, neutral in the US and Canada, and bearish in the remaining markets.

Our iBMI models are bullish across all the regions. Equity signal is fairly constant for all regions except JGBi, where it grew more bullish. Momentum signal grew more bullish across the board except HICPxT, where it was constant. Oil signal grew less bullish across the board.

Latest readings

Exhibit 65: Morgan Stanley Bond Market Indicators - BMI(10)

Country	Vol-Adjusted Carry	Momentum	Equity Markets	Business Cycle	FX	Average	Overall
US	-3.3 (-3.8)	-10.0 (-9.8)	-4.9 (-6.5)	0.1 (0.1)	10.0 (9.8)	-1.6 (-2.0)	-1.6 (-2.0)
DE	-9.7 (-9.7)	4.2 (2.0)	-6.7 (-8.4)	6.0 (6.0)	-5.0 (-6.1)	-2.2 (-3.2)	-2.2 (-3.2)
UK	-3.2 (-3.4)	3.6 (-6.7)	-8.2 (-9.5)	-6.3 (-9.2)	4.7 (5.6)	-1.9 (-4.6)	-1.9 (-4.6)
JP	-7.0 (-6.9)	8.7 (9.5)	-6.2 (-5.6)	4.0 (4.0)	-6.0 (-4.7)	-1.3 (-0.7)	0.0 (0.0)
AU	5.7 (5.6)	-4.4 (-3.4)	-8.0 (-8.1)	-3.5 (-3.7)	-10.0 (-9.1)	-4.0 (-3.7)	-4.0 (-3.7)
NZ	2.1 (1.6)	-7.3 (-7.9)	-5.4 (-3.7)	-3.5 (-3.5)	10.0 (8.8)	-0.8 (-0.9)	0.0 (0.0)
CA	-6.2 (-6.4)	-9.3 (-8.1)	-6.5 (-7.3)	-1.2 (-2.3)	0.0 (0.0)	-5.8 (-6.0)	-5.8 (-6.0)

Source: Morgan Stanley Research

Note: Positive # = long duration; Negative # = short duration, (#) = previous week Thursday close which may differ from the post-nonfarm payroll update, Indicators bounded between -10 and +10, Overall signal set to zero if abs(Signal)<=1.5

Exhibit 66: Morgan Stanley Bond Market Indicators - BMI(2)

Country	Vol-Adjusted Carry	Momentum	Equity Markets	Business Cycle	FX	Average	Overall
US	-8.1 (-7.8)	6.6 (3.8)	-4.9 (-6.5)	0.1 (0.1)	9.1 (9.1)	0.6 (-0.3)	0.0 (0.0)
DE	-5.6 (-7.0)	3.6 (0.7)	-6.7 (-8.4)	6.0 (6.0)	-1.1 (-3.9)	-0.8 (-2.5)	0.0 (-2.5)
UK	1.3 (-0.9)	2.9 (-5.1)	-8.2 (-9.5)	-6.3 (-9.2)	0.7 (4.1)	-1.9 (-4.1)	-1.9 (-4.1)
JP	-8.6 (-9.0)	-2.4 (-3.4)	-6.2 (-5.6)	4.0 (4.0)	1.0 (-3.6)	-2.4 (-3.5)	-2.4 (-3.5)
AU	7.5 (7.7)	8.7 (8.4)	-8.0 (-8.1)	-3.5 (-3.7)	-9.6 (-8.8)	-1.0 (-0.9)	0.0 (0.0)
NZ	-2.5 (-3.5)	-6.5 (-7.6)	-5.4 (-3.7)	-3.5 (-3.5)	9.5 (8.5)	-1.7 (-2.0)	-1.7 (-2.0)
CA	-4.4 (-4.2)	-7.0 (-7.0)	-6.5 (-7.3)	-1.2 (-2.3)	0.0 (0.0)	-4.8 (-5.2)	-4.8 (-5.2)

Source: Morgan Stanley Research

Note: Positive # = long duration; Negative # = short duration, (#) = previous week Thursday close which may differ from the post-nonfarm payroll update, Indicators bounded between -10 and +10, Overall signal set to zero if abs(Signal)<=1.5

Exhibit 67: Morgan Stanley Bond Market Indicators - xBMIs

Country	Long US	Long DE	Long UK	Long JP	Long AU	Long NZ	Long CA
vs. US	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	-2.1 (-2.0)
vs. DE	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	-1.8 (0.0)
vs. UK	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (2.0)	0.0 (0.0)	0.0 (1.9)	-2.0 (0.0)
vs. JP	0.0 (0.0)	0.0 (0.0)	0.0 (-2.0)	0.0 (0.0)	0.0 (-1.5)	0.0 (0.0)	-2.2 (-2.6)
vs. AU	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (1.5)	0.0 (0.0)	1.6 (0.0)	0.0 (0.0)
vs. NZ	0.0 (0.0)	0.0 (0.0)	0.0 (-1.9)	0.0 (0.0)	-1.6 (0.0)	0.0 (0.0)	-2.5 (-2.5)
vs. CA	2.1 (2.0)	1.8 (0.0)	2.0 (0.0)	2.2 (2.6)	0.0 (0.0)	2.5 (2.5)	0.0 (0.0)

Source: Morgan Stanley Research

Note: Positive # = long cross market spreads; Negative # = short cross market spread, (#) = previous week Thursday close which may differ from the post-nonfarm payroll update, Indicators bounded between -15 and +15, Signal is set to zero if abs(Signal)<=2

Exhibit 68: Morgan Stanley Euro Sovereign Bond Market Indicators - eBMI

	Business Cycle Surprises	Momentum	Vol. Adj. Carry	Supply	Risky Assets	Overall
Periphery vs. Core	8.9 (8.6)	6.4 (9.1)	6.3 (7.2)	-1.2 (5.1)	5.9 (5.8)	5.3 (7.2)
Semi-Core vs. Core	8.9 (9.2)	5.3 (8.8)	9.9 (9.9)	-0.8 (-5.3)	9.4 (9.9)	6.6 (6.5)
Periphery vs. Semi-Core	0.0 (-0.3)	0.5 (0.1)	-1.8 (-1.4)	-0.2 (5.2)	-1.8 (-2.1)	-1.3 (0.7)

Source: Morgan Stanley Research

Note: Positive # = long spreads; Negative # = short spreads, (#) = previous week Thursday close which may differ from the post-nonfarm payroll update, Indicators bounded between -10 and +10.

Exhibit 69: Morgan Stanley Inflation Bond Market Indicators - iBMI

Market	Oil	Momentum	Equities	Value	Average	Overall
TIPS	5.7 (6.7)	6.3 (5.1)	2.1 (2.2)	-1.2 (-0.6)	3.2 (3.4)	3.2 (3.4)
UKTi	5.1 (6.4)	3.0 (-0.3)	3.7 (3.8)	3.0 (0.0)	3.7 (2.5)	3.7 (2.5)
HICPxT	5.0 (6.1)	4.6 (4.6)	3.2 (3.4)	1.8 (2.2)	3.6 (4.1)	3.6 (4.1)
JGBi	5.5 (6.5)	1.8 (0.9)	3.3 (2.5)	0.0 (0.5)	2.6 (2.6)	2.6 (2.6)

Source: Morgan Stanley Research

Note: Positive # = long inflation breakeven; Negative # = short inflation breakeven, (#) = previous week Thursday close which may differ from the post-nonfarm payroll update, Indicators bounded between -10 and +10, Overall signal set to zero if abs(Signal)<=1.0

How to read the xBMIs

The "FX/Rates" row displays the FX/rates relationship signal. The "Combined BMI differential" row displays the difference between the relevant BMI(10) signals after having applied the signal strength check, i.e., abs(signal) >= 1.5. The "Average xBMI" row displays the average of the "FX/Rates" and "Combined BMI differential" rows. And the "Overall" score requires that the sign of the "Average xBMI" signal match the sign of the "Combined BMI differential" signal and be ≥ the absolute value of 2.

Government Bond Supply

In the US, 20y will be re-opened for \$24bn and 5y TIPS, \$15bn, against no coupons or redemptions. **In the euro area**, there will be no issuance until the first week of January 2021. €0.13bn coupons will be paid. **In the UK**, there will be no UKT issuance or cash flow coming to the market. **In Japan**, there will be an auction for enhanced liquidity for ¥500bn and 2y JGB will be issued for ¥3000bn, against no coupons or redemptions. **In Canada**, CAN 0.5% Dec 2030 and CAN 0.25% Feb 2023 will be issued for \$5bn each, against no cash flow. **In Australia**, there will be no bond issuance next week but \$0.55bn coupons will be paid. Treasury Bond issuance will resume in the week beginning January 18, 2021. **In New Zealand**, there will be no issuance or cash flow coming into the market.

Exhibit 70: Sovereign supply calendar

Monday	Tuesday	Wednesday	Thursday	Friday
21-DEC	22-DEC	23-DEC	24-DEC	25-DEC
US: 20y UST Re-opening, \$24bn CAN: CAN 0.5% Dec 2030, \$5bn	US: 5y TIPS Re-opening, \$15bn	CAN: CAN 0.25% Feb 2023, \$5bn	JPY: 2y JGB, ¥3000bn	
28-DEC	29-DEC	30-DEC	31-DEC	1-JAN
US: New 2y UST, \$58bn* US: New 5y UST, \$59bn*	ITA: CTZ Auction Cancelled US: New 7y UST, \$59bn*	ITA: BTP Auction Cancelled		
4-JAN	5-JAN	6-JAN	7-JAN	8-JAN
***IRE: Possible New 10y/20y Syndication, €4bn* ***POR: Possible New 10y Syndication, €4bn*	GER: BKO 15-Dec-2022, €6bn	GER: New DBR 15-Feb-31, €5bn UK: UKT 0.25% Gilt 2031, £2.75bn* JPN: 10y JGB, ¥2600bn*	FRA: Long Term OAT Auction, €10-11bn* SPA: SPGB Auction, €5bn*	JPN: 30y JGB, ¥900bn*
11-JAN	12-JAN	13-JAN	14-JAN	15-JAN
***ITA: Possible New 15y BTP Syndication, €10bn* ***BEL: Possible New 10y Syndication, €5bn* US: New 3y UST, \$58bn*	GER: Linker Auction, €2.5bn* (Possible New 10y DBRi) NETH: DSL Jan 2052 Tap, €1-2bn AUT: RAGB Auction, Total €1.25bn UK: UKT 0.125% Gilt 2028, £3bn* UK: UKT 0.625% Gilt 2054, £2bn* US: 10y Re-opening, \$38bn*	GER: New OBL 10-Apr-2026, €5bn ITA: BTP Auction, €6-7bn* UK: UKTi 0.125% Gilt 2065, £1bn* US: 30y Re-opening, \$24bn* JPN: 5y JGB, ¥2600bn*		
18-JAN	19-JAN	20-JAN	21-JAN	22-JAN
***SPA: Possible New 10y Syndication, €10bn*		GER: DBR 15-Aug-2050 Tap, €1.5bn	FRA: Medium Term Auction, €10-11n* FRA: Linker Auction, €1-2bn* SPA: SPGB Auction, €5bn* UK: UKT 0.125% 2024, £3bn*	

Source: Morgan Stanley Research, Treasuries
* Morgan Stanley estimate. ** Possible Auction

QIS Macro Strategy Signals

Rates Value - Quantitative Investment Strategies Research: Rule-Based Value Investing

Rates Value is a strategy for investing in global 10y government bond futures. The strategy considers a series of market and macroeconomic variables to drive investment decisions, using a LASSO regression to avoid over-fitting.

Exhibit 71: Rates Value positioning, last 12 months

Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Australia	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Canada	-16%	16%	16%	16%	16%	-19%	-16%	-17%	-17%	-17%	14%	14%
France	22%	22%	22%	22%	22%	22%	19%	19%	-19%	-19%	20%	22%
Germany	22%	22%	-22%	21%	21%	21%	20%	20%	21%	20%	22%	22%
Italy	13%	14%	10%	11%	11%	11%	11%	11%	12%	12%	-13%	-13%
Japan	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	-22%
Korea	-20%	-20%	22%	22%	22%	22%	-22%	-22%	-20%	20%	20%	20%
UK	15%	15%	17%	-17%	-17%	-17%	16%	16%	15%	14%	14%	15%
US	-21%	-20%	19%	-19%	-19%	-19%	19%	19%	19%	20%	21%	-21%
Net												
Duration Exposure	59%	93%	139%	100%	100%	65%	91%	90%	55%	94%	142%	59%

Source: Morgan Stanley Research, Bloomberg

Rates Trend - Quantitative Investment Strategies Research: Investing in Central Bank Momentum

The Rates Trend strategy invests in the front four contracts of global Short-Term Interest Rate (STIR) futures by trend-following, using different look-back windows to generate long and short signals. The strategy incorporates GARCH, a parsimonious statistical model, to capture the time-varying and clustering aspects of market volatility.

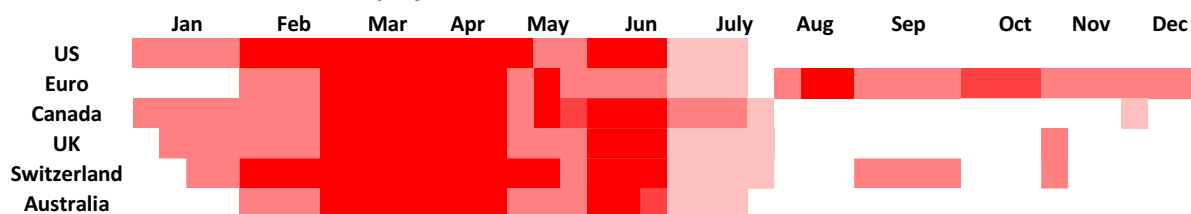
Exhibit 72: Rates Trend net contract exposure, last 12 months

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US	2	4	4	4	4	4	4	4	2	2	2	2
Euro	-4	-2	4	4	4	4	4	2	4	4	4	4
UK	-4	4	4	4	4	4	4	2	4	4	4	0
Canada	-2	-4	4	4	4	4	4	2	2	4	4	2
Switzerland	-4	-4	4	4	4	3	2	0	2	4	4	-2
Australia	2	2	4	4	4	4	4	2	4	4	4	4
Strategy	-2	0	4	4	4	4	4	2	3	3	3	2

Source: Morgan Stanley Research, Bloomberg

Note: Numbers represent the net exposure of the strategy among the front 4 contracts for the given country

Exhibit 73: GARCH forecasted volatility regimes, last 12 months



Source: Morgan Stanley Research, Bloomberg. Red indicates a high volatility regime.

FX Equity-Driven Momentum - Quantitative Investment Strategies: FX Equity-Driven Momentum

FX Equity-Driven Momentum is long/short strategy whose positions in currencies are driven by the relative performance of the corresponding equity markets. The strategy goes long currencies where the local equity market has outperformed the US by Sharpe ratio over the past 3 months, and short currencies which have underperformed the US.

Exhibit 74: FX Equity Momentum Positioning, emerging markets, year to date

Month	BRL	CLP	CNH	COP	CZK	HUF	IDR	ILS	INR	KRW	MXN	PEN	PHP	PLN	RON	RUB	SGD	THB	TRY	TWD	ZAR	USD
Jan	-2%	-3%	-3%	-3%	-5%	-2%	-6%	-6%	-5%	-2%	-3%	-7%	-5%	-4%	-6%	0%	-10%	-7%	-2%	-5%	-2%	88%
Feb	-2%	-3%	-5%	-3%	-5%	-4%	-5%	-6%	-5%	-2%	-3%	-7%	-5%	-4%	-6%	-3%	-10%	-7%	-2%	-9%	-2%	100%
Mar	-2%	-3%	6%	-3%	-4%	-4%	-4%	-5%	-6%	-2%	-1%	-7%	-7%	-4%	-5%	-2%	-11%	-6%	-1%	-6%	-3%	80%
Apr	-2%	-3%	-7%	-3%	-3%	-4%	-4%	-3%	-6%	-3%	-2%	-5%	-8%	-5%	-6%	-1%	-9%	-6%	-3%	-12%	-3%	98%
May	-2%	-4%	8%	-3%	-3%	-4%	-4%	-3%	-6%	-4%	-2%	-5%	-8%	-5%	-6%	-2%	-9%	-6%	-3%	-5%	-2%	77%
Jun	-2%	-2%	-3%	-2%	-2%	-2%	0%	2%	-6%	0%	-2%	-5%	-6%	-1%	-2%	0%	-7%	1%	-3%	-4%	-2%	49%
Jul	-1%	-1%	5%	-2%	-1%	-3%	2%	4%	-1%	5%	-2%	-5%	-6%	-1%	-1%	-1%	-8%	5%	-2%	10%	-1%	5%
Aug	2%	-3%	-1%	-3%	-1%	-3%	-1%	-1%	8%	5%	-2%	-5%	-9%	3%	-4%	-2%	-9%	-6%	-3%	11%	-2%	28%
Sep	-2%	-3%	9%	-3%	-3%	-3%	-3%	-5%	6%	2%	-2%	-5%	-9%	-3%	-2%	-3%	-9%	-6%	-3%	12%	-2%	36%
Oct	-2%	-3%	-6%	-3%	-3%	-3%	-4%	-4%	7%	0%	-1%	-6%	-12%	-3%	-2%	-2%	-9%	-7%	-3%	5%	-2%	62%
Nov	-2%	-3%	-1%	-3%	-3%	-3%	-4%	-5%	4%	-3%	0%	-4%	-1%	-3%	-4%	-2%	-8%	-7%	-3%	0%	-1%	57%
Dec	2%	3%	6%	-2%	3%	3%	4%	-5%	8%	7%	3%	3%	12%	-3%	-5%	-2%	9%	6%	1%	8%	2%	-61%

Source: Morgan Stanley Research, Bloomberg. Percentages represent the average exposure of the strategy in each currency forward for the given month.

Exhibit 75: FX Equity Momentum Positioning, developed markets, year to date

Month	AUD	CAD	CHF	EUR	GBP	JPY	NOK	NZD	SEK	USD
Jan	-10%	-8%	-12%	-13%	-6%	-13%	-9%	-3%	-9%	83%
Feb	-10%	-14%	15%	-14%	-6%	-13%	-9%	5%	-9%	55%
Mar	-8%	-17%	-2%	-16%	-8%	-9%	-9%	-2%	-8%	78%
Apr	-8%	-17%	-9%	-17%	-8%	-9%	-6%	-9%	-12%	95%
May	-8%	-13%	-15%	-17%	-9%	-10%	-7%	-4%	-13%	96%
Jun	-5%	-5%	-5%	-3%	-9%	10%	0%	-1%	-3%	22%
Jul	2%	-4%	-5%	-6%	-10%	1%	-3%	7%	-5%	23%
Aug	-2%	3%	-14%	5%	-10%	-14%	-6%	-2%	10%	31%
Sep	-9%	-5%	-7%	-13%	-10%	-14%	-7%	-4%	-3%	71%
Oct	-9%	-13%	-13%	-13%	-9%	-5%	-6%	-9%	-2%	79%
Nov	-9%	-14%	-15%	-14%	-9%	10%	-6%	-9%	-9%	74%
Dec	9%	8%	-15%	15%	10%	13%	4%	5%	10%	-59%

Source: Morgan Stanley Research, Bloomberg. Percentages represent the average exposure of the strategy in each currency forward for the given month.

FX Value - Quantitative Investment Strategies Research: Rule-Based Value Investing

FX Value is a strategy for investing in Developed Market currency forwards. The strategy combines two models: (1) A two-factor mean variance model and (2) a long-run mean-reversion model to determine investment decisions around G10 currencies.

Exhibit 76: FX Value Positioning, last 12 months

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AUD	6%	-13%	6%	6%	-1%	1%	2%	2%	2%	-2%	1%	1%
CAD	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-15%	-14%	-13%	-13%
EUR	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-15%	-14%	-13%	-13%
JPY	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-15%	-14%	-13%	-13%
NZD	31%	13%	29%	29%	23%	25%	26%	26%	29%	27%	25%	25%
NOK	-13%	-13%	-13%	-13%	-4%	-7%	-8%	-8%	-15%	-12%	-13%	-13%
SEK	6%	43%	9%	9%	2%	4%	5%	-5%	4%	0%	2%	2%
CHF	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-15%	-14%	-13%	-13%
GBP	-13%	-13%	-13%	-13%	-1%	-5%	-6%	-6%	-15%	-11%	-11%	-11%
USD	38%	35%	32%	35%	33%	34%	34%	44%	55%	54%	49%	49%

Source: Morgan Stanley Research, Bloomberg. Percentages represent the exposure of the combined FX Value strategy in each currency forward.

In Case You Missed It

[CPI \(Nov 2020 Nationwide\) and JGBi Strategy: Falling Energy Prices Playing a Role](#)

18 Dec 2020

The Japan-style core marked the fourth straight month of negative YoY as the effects of interim measures for the 2019 c-tax hike fell off. In contrast, the core-core, excluding special factors, remained robust. Our strategist discusses the key themes for JGBi strategy in 2021.

[Global Macro Strategy: Germany 2021 Issuance Outlook](#)

17 Dec 2020

The ECB/Bundesbank should absorb all of Germany's net supply in 2021, potentially revitalizing Bund scarcity concerns in the back half of 2021 and into 2022. We maintain longs in 30y Bunds vs shorts in 30y US Treasuries and avoid 10y and 30y swap spread tighteners versus Bunds and Buxls.

[UK Economics & Global Macro Strategy: A Modest Dovish Surprise](#)

17 Dec 2020

As expected, with an FTA looking likely, the MPC largely remained on hold. But, in a surprise dovish move, it extended cheap bank funding by six months, while repeating that it could "go fast" to calm markets if needed.

[Global Macro Strategist: Clash of the Titans](#)

14 Dec 2020

With titans leaving Brexit and US fiscal stimulus unresolved, investors can't adjourn for the holidays just yet. Hopes are high that, after the year we endured, the gods will allow it to end on a high note. We suggest proceeding into year-end with reduced risk exposure, but a positive 2021 outlook.

[ECB Reaction: Extending the Crisis Response](#)

13 Dec 2020

In a modest beat, the ECB extended its pandemic response to 1H22, topping up PEPP by €500bn, and expanding TLTRO eligibility. With inflation still far from target, we see a 2021 strategy review debate ahead on next steps after COVID-19.

[Norway Economics and Macro Strategy: Norges Bank Preview: Smooth Sailing](#)

11 Dec 2020

At a no-action meeting, we expect the rate path to be unchanged relative to September, but are looking for a more hawkish tone, given a milder second-wave hit than was feared in the autumn. We recommend staying long NOK.

Forecasts

Government bonds

Exhibit 77: Morgan Stanley sovereign 2y, 5y, 10y, and 30y yield base case forecasts

	2Y				5Y				10Y				30Y			
	1Q21	2Q21	3Q21	4Q21	1Q21	2Q21	3Q21	4Q21	1Q21	2Q21	3Q21	4Q21	1Q21	2Q21	3Q21	4Q21
US	0.20	0.35	0.35	0.40	0.55	0.65	0.70	0.70	1.15	1.30	1.40	1.45	2.00	2.20	2.35	2.40
Germany	-0.65	-0.60	-0.60	-0.55	-0.65	-0.60	-0.55	-0.50	-0.40	-0.35	-0.25	-0.20	0.05	0.15	0.30	0.35
Japan	-0.15	-0.15	-0.15	-0.15	-0.10	-0.10	-0.10	-0.10	0.00	0.00	0.00	0.00	0.50	0.55	0.55	0.55
UK	0.00	0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.45	0.55	0.60	0.70	0.95	1.05	1.15	1.20
Canada	0.30	0.30	0.35	0.35	0.50	0.60	0.65	0.70	0.90	1.00	1.10	1.15	1.45	1.60	1.70	1.75
Australia	0.10	0.10	0.10	0.10	0.30	0.30	0.35	0.40	1.00	1.10	1.15	1.20	2.00	2.15	2.25	2.30
New Zealand	0.10	0.10	0.10	0.10	0.15	0.25	0.35	0.40	0.75	0.85	1.00	1.10				
Austria*	5	0	0	0	5	5	5	5	15	10	5	5	30	25	20	20
Netherlands*	5	0	0	0	5	0	0	0	10	5	5	5	10	5	5	5
France*	5	5	5	5	5	5	5	5	25	20	20	15	50	40	35	30
Belgium*	5	5	5	5	5	5	5	5	20	15	15	10	50	40	35	30
Ireland*	10	10	5	5	15	10	5	5	30	25	20	15	45	40	35	30
Spain*	20	15	10	10	40	35	30	25	65	60	55	50	105	95	85	80
Italy*	35	30	25	20	75	70	65	60	105	95	90	85	145	135	125	115
Portugal*	20	15	10	10	35	30	25	20	60	55	50	45	90	80	75	70

Source: Morgan Stanley Research, *Spread to German Bunds

Exhibit 78: Morgan Stanley sovereign 10-year yield bull, base, and bear case forecasts

	Bull				Base				Bear			
	1Q21	2Q21	3Q21	4Q21	1Q21	2Q21	3Q21	4Q21	1Q21	2Q21	3Q21	4Q21
US	0.85	0.80	0.90	1.00	1.15	1.30	1.40	1.45	1.20	1.40	1.55	1.75
Germany	-0.75	-0.80	-0.85	-0.90	-0.40	-0.35	-0.25	-0.20	-0.25	-0.15	-0.05	0.05
Japan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10	0.10	0.15
UK	0.05	-0.05	-0.10	-0.15	0.45	0.55	0.60	0.70	0.70	0.80	0.90	1.00
Canada	0.55	0.55	0.60	0.60	0.90	1.00	1.10	1.15	0.85	1.00	1.15	1.25
Australia	0.70	0.70	0.70	0.70	1.00	1.10	1.15	1.20	0.95	1.15	1.30	1.50
New Zealand	0.50	0.40	0.40	0.45	0.75	0.85	1.00	1.10	0.85	1.00	1.20	1.40
Austria*	5	5	0	0	15	10	5	5	30	35	40	45
Netherlands*	0	0	-5	-5	10	5	5	5	25	30	35	40
France*	15	10	10	5	25	20	20	15	45	55	65	80
Belgium*	10	10	5	5	20	15	15	10	40	50	60	75
Ireland*	20	15	10	10	30	25	20	15	55	70	85	100
Spain*	45	35	30	25	65	60	55	50	100	125	150	175
Italy*	85	75	65	55	105	95	90	85	175	200	225	250
Portugal*	40	30	25	25	60	55	50	45	105	130	155	180

Source: Morgan Stanley Research, *Spread to German Bunds

Foreign exchange

Exhibit 79: Morgan Stanley foreign exchange base case forecasts

	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22
EUR/USD	1.20	1.20	1.23	1.24	1.25	1.24	1.23	1.22	1.21
USD/JPY	102	103	103	104	105	105	105	105	105
GBP/USD	1.36	1.33	1.35	1.32	1.32	1.32	1.32	1.32	1.32
USD/CHF	0.89	0.88	0.87	0.88	0.87	0.88	0.90	0.91	0.93
USD/SEK	8.33	8.25	7.97	7.82	7.68	7.68	7.68	7.68	7.68
USD/NOK	8.75	8.58	8.13	8.06	7.88	7.98	8.08	8.19	8.29
USD/CAD	1.28	1.26	1.23	1.24	1.25	1.26	1.27	1.29	1.30
AUD/USD	0.73	0.74	0.75	0.76	0.77	0.77	0.77	0.77	0.77
NZD/USD	0.69	0.70	0.72	0.73	0.74	0.74	0.74	0.74	0.74
EUR/JPY	122	124	127	129	131	130	129	128	127
EUR/GBP	0.88	0.90	0.91	0.94	0.95	0.94	0.93	0.93	0.92
EUR/CHF	1.07	1.06	1.08	1.09	1.09	1.10	1.11	1.12	1.13
EUR/SEK	10.00	9.90	9.80	9.70	9.60	9.53	9.46	9.39	9.32
EUR/NOK	10.50	10.30	10.00	10.00	9.85	9.90	9.96	10.01	10.07
USD/CNY	6.60	6.55	6.50	6.45	6.40	6.38	6.37	6.36	6.35
USD/HKD	7.75	7.75	7.75	7.75	7.75	7.75	7.75	7.75	7.75
USD/IDR	14000	13800	13600	13550	13500	13500	13500	13500	13500
USD/INR	73.5	73.0	72.5	72.3	72.0	72.1	72.1	72.2	72.2
USD/KRW	1100	1090	1085	1080	1075	1082	1090	1097	1105
USD/MYR	4.10	4.05	4.00	3.95	3.90	3.90	3.90	3.90	3.90
USD/PHP	47.7	47.3	47.1	46.8	46.5	46.8	47.1	47.3	47.6
USD/SGD	1.33	1.32	1.32	1.31	1.31	1.31	1.31	1.31	1.31
USD/TWD	28.4	28.2	28.1	28.0	27.9	28.3	28.7	29.2	29.6
USD/THB	30.3	30.1	30.0	29.8	29.5	29.5	29.5	29.5	29.5
USD/BRL	5.30	5.25	5.10	5.30	5.30	5.17	5.04	4.90	4.77
USD/MXN	20.25	20.00	19.75	20.00	20.00	20.00	20.00	20.00	20.00
USD/ARS	83	97	103	110	130	135	140	145	150
USD/CLP	745	735	725	750	770	766	762	758	754
USD/COP	3660	3550	3600	3550	3600	3518	3436	3353	3271
USD/PEN	3.57	3.53	3.49	3.50	3.50	3.48	3.47	3.45	3.44
USD/ZAR	15.8	15.3	15.0	15.0	15.0	15.0	15.0	15.0	15.0
USD/TRY	7.00	7.25	7.50	7.75	8.25	8.50	8.75	9.00	9.25
USD/ILS	3.41	3.42	3.43	3.43	3.43	3.43	3.43	3.44	3.44
USD/RUB	77.0	75.0	74.4	73.5	73.0	70.1	67.3	64.4	61.5
EUR/PLN	4.52	4.45	4.42	4.40	4.38	4.35	4.32	4.28	4.25
EUR/CZK	26.8	26.2	26.0	26.0	26.0	26.3	26.5	26.8	27.0
EUR/HUF	360	355	352	350	350	347	345	342	340
DXY Index	91	91	89	89	89	89	90	90	91
Fed's Broad USD Index	113	112	111	111	111	111	112	112	112

Source: Morgan Stanley Research. [Click here](#) for custom cross forecasts

Exhibit 80: Morgan Stanley foreign exchange Base, Bear, Bull scenarios

4Q21	Bear	Base	Bull
EUR/USD	1.15	1.25	1.30
GBP/USD	1.21	1.32	1.40
USD/JPY	99	105	108
AUD/USD	0.70	0.77	0.80
USD/CNY	6.00	6.40	6.80
USD/INR	69.1	72.0	77.0
USD/ZAR	14.75	15.00	16.90
USD/BRL	5.10	5.30	5.90
USD/MXN	19.60	20.00	21.50

Source: Morgan Stanley Research

Event Calendar

Exhibit 81: Risk Event Calendar

Date	Time (Ldn)	Ccy	Event	Ref. Period	MS forecast	Market	Previous
21-Dec	N/A	KRW	First 20-Days Exports (YoY)	Dec			11.1%
	01:10	JPY	BoJ Outright Bond Purchases 1-3y, 3-5y, 5-10y				
	01:30	CNY	1-Year Loan Prime Rate			3.85%	3.85%
	01:30	CNY	5-Year Loan Prime Rate			4.65%	4.65%
	02:00	NZD	Credit Card Spending (MoM)	Nov			1.5%
	08:00	CHF	M3 (YoY)	Nov			5.6%
	08:00	TWD	Export Orders (YoY)	Nov		14.25%	9.1%
	09:00	CHF	SNB Sight Deposits				704.9B
	09:00	NOK	Norges Bank's Olsen spks (Economic Outlook)				
	11:00	GBP	CBI Reported Sales	Dec		0	-25
	13:30	USD	Chicago Fed Natural Activity Index	Nov			0.83
	14:30	UAH	GDP (YoY)	3Q F		-3.5%	-3.5%
	15:00	EUR	Consumer Confidence	Dec A	-17.2	-17.3	-17.6
22-Dec	00:30	AUD	Retail Sales (MoM)	Nov P		2.5%	1.4%
	05:30	JPY	Nationwide Dept Sales (YoY)	Nov			-1.7%
	06:00	JPY	Machine Tool Orders (YoY)	Nov F			8%
	07:00	GBP	GDP (QoQ)	3Q F	15.5%	15.5%	15.5%
	07:00	GBP	Current Account Balance	3Q		-12.1B	-2.8B
	07:00	NOK	Unemployment Rate (AKU)	Oct		5.15%	5.2%
	07:00	GBP	PSNB ex Interventions	Nov	35.4B	28.3B	22.3B
	07:00	EUR	German GfK Consumer Confidence	Jan		-8.4	-6.7
	07:00	MYR	Foreign Reserves				105.3B
	08:00	SEK	Economic Tendency Survey	Dec			97.5
	08:00	SEK	Consumer Confidence	Dec	86.0		88.3
	08:00	SEK	Manufacturing Confidence	Dec	112.0		110.6
	08:30	SEK	PPI (YoY)	Nov			-4.2%
	08:30	SEK	Retail Sales (MoM)	Nov		-0.4%	0.5%
	09:00	SEK	Sales indicator				
	12:00	BRL	IPCA Inflation (MoM)	Dec	1.21%		0.81%
	13:30	USD	GDP (QoQ)	3Q T		33.1%	33.1%
	13:30	USD	PCE Core (QoQ)	3Q T			3.5%
	15:00	USD	Consumer Confidence Index	Dec	104.4	97	96.1
	15:00	USD	Existing Home Sales	Nov	6.529m	6.7m	6.85m
	15:00	USD	Richmond Fed Manufacturing Index	Dec		12	15
	23:50	JPY	BoJ Minutes	Oct-29			
23-Dec	00:30	AUD	Private Sector Credit (MoM)	Nov	0.0%	0.1%	0%
	00:30	AUD	Preliminary Merchandise Trade	Nov			
	04:00	MYR	CPI (YoY)	Nov		-1.5%	-1.5%
	05:00	SGD	CPI (YoY)	Nov		-0.2%	-0.2%
	05:00	JPY	Coincident Index	Oct F			89.7
	05:00	JPY	Leading Index CI	Oct F			93.8

	07:00	EUR	German Import Prices (YoY)	Nov	-2.9%	-3.9%	-3.9%
	07:05	THB	BoT Rates Decision		0.50%	0.5%	0.5%
	08:00	EUR	Spanish GDP (QoQ)	3Q F	16.7%	16.7%	16.7%
	09:00	EUR	Italian Consumer Confidence Index	Dec		97.9	98.1
	09:00	EUR	Italian Business Confidence	Dec	89.6	90.5	90.2
	12:00	MXN	Bi-Weekly CPI (2w/2w)	Dec-15	0.38%	0.39%	-0.1%
	13:30	USD	Initial Jobless Claims			862.5k	885k
	13:30	USD	Durable Goods Orders	Nov P	0.5%	0.6%	1.3%
	13:30	USD	Durables Ex Transportation	Nov P	0.7%	0.5%	1.3%
	13:30	USD	Personal Income	Nov	-0.2%	-0.2%	-0.7%
	13:30	USD	Personal Spending	Nov	-0.5%	-0.2%	0.5%
	13:30	USD	PCE Core (YoY)	Nov	1.38%	1.4%	1.4%
	13:30	CAD	GDP (MoM)	Oct			0.8%
	14:00	CHF	SNB Monetary Policy Report	4Q			
	14:00	USD	House Price Index (MoM)	Oct		0.5%	1.7%
	N/A	INT	IMF's FX Reserve Data (COFER)	4Q			
	15:00	USD	Univ. of Michigan Confidence	Dec F		80.5	81.4
	15:00	USD	New Home Sales	Nov	996k	990k	999k
	15:00	USD	New Home Sales (MoM)	Nov	-0.3%	-0.9%	-0.3%
	15:30	USD	EIA Crude Oil Inventories				-3135k
	23:50	JPY	Japan MoF Weekly Security Flow				
24-Dec	N/A	JPY	BoJ's Kuroda spks				
	05:30	EUR	Netherlands GDP (QoQ)	3Q F		7.7%	7.7%
	11:00	TRY	CBT Rates Decision		16.50%	16.5%	15%
	23:30	JPY	Tokyo CPI (YoY)	Dec	-0.8%	-0.8%	-0.8%
	23:30	JPY	Unemployment Rate	Nov	3.1%	3.1%	3.1%
	23:50	JPY	Retail Sales (YoY)	Nov	-0.6%	1.7%	6.4%
25-Dec	01:10	JPY	BoJ Outright Bond Purchases 3-5y, 5-10y, 10-25y, 25+y				
	05:00	JPY	Housing Starts (YoY)	Nov	-5.9%	-4.8%	-8.3%
	05:00	JPY	Construction Orders (YoY)	Nov			-0.08%
27-Dec	23:50	JPY	BoJ Summary of Opinions	Dec-18			
	23:50	JPY	Industrial Production (MoM)	Nov P	1.4%		4%
28-Dec	04:00	MYR	Exports (YoY)	Nov		-0.2%	0.2%
	07:00	NOK	Retail Sales (MoM)	Nov			1.2%
	08:00	EUR	Spanish Retail Sales (YoY)	Nov		-3.5%	-2.7%
	09:00	CHF	SNB Sight Deposits	Dec-25			704.9B
	15:30	USD	Dallas Fed Manufacturing Activity	Dec			12
29-Dec	08:30	SEK	Trade Balance	Nov			4.7B
	08:30	SEK	Household Lending (YoY)	Nov			5.4%
	14:00	USD	Case-Shiller Home Price Index (QoQ)	Oct			6.96%
30-Dec	07:00	GBP	Nationwide House Prices (MoM)	Dec			0.9%
	07:30	THB	Exports (YoY)	Nov			-5.61%
	08:00	CHF	KOF Leading Indicator	Dec		100.5	103.5
	08:00	EUR	Spanish CPI (YoY)	Dec P	-0.8%	-0.7%	-0.8%
	09:00	NOK	Norges Bank Daily FX Purchases	Jan			-500
	13:30	USD	Wholesale Inventories (MoM)	Nov P			1.1%
	13:30	USD	Advance Goods Trade Balance	Nov		-81.5B	-80.4B
	14:45	USD	Chicago PMI	Dec		56.7	58.2

	15:00	USD	Pending Home Sales (MoM)	Nov		-0.5%	-1.1%
	15:30	USD	EIA Crude Oil Inventories	Dec-25			-3135k
	16:00	RUB	GDP (YoY)	3Q F	-3.4%		-3.4%
	23:00	KRW	CPI (YoY)	Dec			0.6%
31-Dec	01:00	CNY	Composite PMI	Dec			55.7
	01:00	CNY	Manufacturing PMI	Dec	51.8	51.9	52.1
	01:00	CNY	Non-manufacturing PMI	Dec		56.3	56.4
	08:00	CHF	SNB FX Interventions	3Q			51.51B
	13:30	USD	Initial Jobless Claims	Dec-26		862.5k	885k
	16:00	RUB	CPI (YoY)	Dec	4.5%		4.4%
	23:00	GBP	Scheduled End of Brexit Transition Period				
01-Jan	00:00	KRW	Exports (YoY)	Dec			4.1%
	23:00	AUD	Corelogic House Prices (MoM)	Dec			0.7%
03-Jan	22:00	AUD	PMI Manufacturing	Dec F			56
04-Jan	00:30	MYR	Malaysia PMI	Dec			48.4
	00:30	JPY	PMI Manufacturing	Dec F			49.7
	00:30	THB	Thailand PMI	Dec			50.4
	00:30	PHP	Philippines PMI	Dec			49.9
	01:45	CNY	Caixin PMI Manufacturing	Dec		55.2	54.9
	05:30	AUD	Commodity Index (YoY)	Dec			2.2%
	07:00	TRY	CPI (YoY)	Dec	14.3%		14.03%
	07:30	SEK	Manufacturing PMI	Dec			59.1
	08:15	EUR	Spanish PMI Manufacturing	Dec		52.5	49.8
	08:30	CHF	Manufacturing PMI	Dec		54	55.2
	08:45	EUR	Italian PMI Manufacturing	Dec		53.1	51.5
	08:50	EUR	French PMI Manufacturing	Dec F		51.1	51.1
	08:55	EUR	German PMI Manufacturing	Dec F		58.6	58.6
	09:00	NOK	Manufacturing PMI	Dec		52.5	51.89
	09:00	CHF	SNB Sight Deposits				704.9B
	09:00	EUR	PMI Manufacturing	Dec F	55.5	55.5	55.5
	09:30	GBP	Consumer Credit (YoY)	Nov			-5.6%
	09:30	GBP	Mortgage Approvals	Nov	78.5k	82.5k	97.5k
	09:30	GBP	PMI Manufacturing	Dec F	57.3	57.3	57.3
	14:00	ILS	BoI Rates Decision			0.1%	0.1%
	14:30	CAD	PMI Manufacturing	Dec			55.8
	14:45	USD	PMI Manufacturing	Dec F			56.5
	15:00	USD	Construction Spending (MoM)	Nov			1.3%
	15:00	USD	Fed's Evans (voter) spks (Economy and Monetary Policy)				
	15:00	USD	Fed's Bostic (voter) spks (Covid-19)				
	15:20	SEK	Riksbank Releases Targeted Corporate Bond Purchases				
	17:15	USD	Fed's Mester (non-voter) spks (Diversity)				
	23:00	USD	Fed's Mester (non-voter) spks (Economic Outlook)				
	23:50	JPY	Monetary Base End of Period	Dec			605.9B
	23:50	JPY	Monetary Base (YoY)	Dec			16.5%
	N/A	PEN	CPI (MoM)	Dec			0.52%
4-8 J	N/A	CLP	CPI (MoM)	Dec	0.2%		-0.1%
05-Jan	03:30	THB	CPI (YoY)	Dec			-0.41%
	07:00	EUR	German Retail Sales (MoM)	Nov	-2.0%	-2%	2.6%

	07:30	CHF	CPI (YoY)	Dec		-0.7%	-0.7%
	07:30	CHF	Core CPI (YoY)	Dec		-0.2%	-0.2%
	07:45	EUR	French CPI (YoY)	Dec P	0.21%	0.2%	0.2%
	08:55	EUR	German Unemployment Change	Dec	25k	5k	-39k
	08:55	EUR	German Unemployment Rate	Dec		6.2%	6.1%
	09:00	EUR	M3 (YoY)	Nov	10.4%	10.6%	10.5%
	N/A	NZD	Global Dairy Trade Announces Milk Auction Results				
	13:30	CAD	Raw Materials Price Index (MoM)	Nov			0.5%
	15:00	USD	ISM Manufacturing	Dec			57.5
	21:00	KRW	Foreign Reserves	Dec			436.38B
	22:00	AUD	PMI Services	Dec F			57.4
	22:00	AUD	PMI Composite	Dec F			57
	N/A	USD	Total Vehicle Sales	Dec			15.55m
06-Jan	00:00	COP	CPI (MoM)	Dec	0.33%		-0.15%
	00:01	GBP	BRC Shop Price Index (YoY)	Dec			-1.83%
	00:30	SGD	Singapore PMI	Dec			46.7
	00:30	JPY	PMI Services	Dec F			47.2
	00:30	JPY	PMI Composite	Dec F			48
	01:45	CNY	PMI Composite	Dec			57.5
	01:45	CNY	PMI Services	Dec			57.8
	05:00	JPY	Consumer Confidence Index	Dec			33.7
	07:00	NOK	Credit Indicator Growth (YoY)	Nov			4.5%
	07:30	SEK	PMI Services	Dec			58.6
	07:45	EUR	French Consumer Confidence	Dec	91.0	91	90
	08:00	EUR	German regional CPI start being released	Dec			
	08:15	EUR	Spanish PMI Services	Dec		44.5	39.5
	08:20	TWD	Foreign Reserves	Dec			513.4B
	08:45	EUR	Italian PMI Services	Dec		45	39.4
	08:45	EUR	Italian PMI Composite	Dec		47.3	42.7
	08:50	EUR	French PMI Services	Dec F		49.2	49.2
	08:55	EUR	German PMI Services	Dec F		47.7	47.7
	09:00	EUR	PMI Services	Dec F	47.3	47.3	47.3
	09:00	EUR	PMI Composite	Dec F	49.8	49.8	49.8
	09:30	GBP	PMI Services	Dec F	49.9	49.9	49.9
	09:30	GBP	PMI Composite	Dec F	50.7	50.7	50.7
	10:00	EUR	PPI (YoY)	Nov		-2.2%	-2%
	13:00	EUR	German CPI (YoY)	Dec P	-0.3%	-0.3%	-0.3%
	13:15	USD	ADP Employment Change	Dec			307k
	14:45	USD	PMI Services	Dec F			55.3
	15:00	USD	Factory Orders	Nov			1%
	15:00	USD	Durable Goods Orders	Nov F		0.6%	1.3%
	15:00	USD	Durables Ex Transportation	Nov F		0.5%	1.3%
	15:30	USD	EIA Crude Oil Inventories	Jan 1			-3135k
	19:00	USD	FOMC Minutes				
	23:30	JPY	Labor Cash Earnings (YoY)	Nov	-1.0%		-0.8%
	23:50	JPY	Japan MoF Weekly Security Flow				
	N/A	USD	Congress Counts Electoral Votes				
07-Jan	00:30	AUD	Building Approvals (MoM)	Nov		2%	3.8%

	00:30	AUD	Trade Balance	Nov		6400m	7456m
	00:30	AUD	Exports (MoM)	Nov			5.4%
	00:30	AUD	Imports (MoM)	Nov			0.6%
	06:45	CHF	Unemployment Rate	Dec		3.6%	3.3%
	07:00	EUR	German Factory Orders (MoM)	Nov	-1.8%	-1.4%	2.9%
	07:30	CHF	Retail Sales Real (YoY)	Nov			3.1%
	08:00	TWD	CPI (YoY)	Dec			0.09%
	08:00	CHF	Foreign Currency Reserves	Dec			875.9B
	09:00	SGD	Foreign Reserves	Dec			353B
	09:00	PLN	CPI (YoY)	Dec P	2.7%	2.6%	3%
	09:30	GBP	PMI Construction	Dec		54.9	54.7
	10:00	EUR	Consumer Confidence	Dec F		-17.3	-17.6
	10:00	EUR	Retail Sales (MoM)	Nov	-3.4%	-3%	1.5%
	10:00	EUR	Economic Confidence	Dec	87.7	89.5	87.6
	10:00	EUR	Services Confidence	Dec		-15	-17.3
	10:00	EUR	CPI Estimate (YoY)	Dec	-0.2%	-0.3%	-0.3%
	10:00	EUR	CPI Core (YoY)	Dec P	0.3%	0.3%	0.2%
	10:00	EUR	Italian HICP (YoY)	Dec P	-0.3%	-0.3%	-0.3%
	12:00	MXN	CPI (MoM)	Dec			0.08%
	13:30	USD	Initial Jobless Claims			862.5k	885k
	13:30	CAD	Trade Balance	Nov			-3.76B
	13:30	USD	Trade Balance	Nov			-63.1B
	15:00	USD	ISM Non-Manufacturing Composite	Dec			55.9
	23:30	JPY	Overall Household Spending (YoY)	Nov	-1.4%		1.9%
7-14 J	N/A	SGD	GDP (YoY)	4Q A			-5.8%
08-Jan	05:00	JPY	Coincident Index	Nov P			89.7
	05:00	JPY	Leading Index CI	Nov P			93.8
	05:30	AUD	Foreign Reserves	Dec			58.7B
	06:25	CHF	SNB Preliminary Annual Results for 2020				
	07:00	EUR	German Trade Balance	Nov	18.7B	19.4B	19.4B
	07:00	EUR	German Current Account Balance	Nov	21.6B	23B	25.2B
	07:00	EUR	German Exports (MoM)	Nov	1.5%	1.2%	0.9%
	07:00	EUR	German Imports (MoM)	Nov	1.1%	0.5%	0.4%
	07:00	EUR	German Industrial Production (MoM)	Nov	0.7%	0.3%	3.2%
	07:00	NOK	Industrial Production (MoM)	Nov			-3.5%
	07:45	EUR	French Industrial Production (MoM)	Nov	1.2%	-0.9%	1.6%
	07:45	EUR	French Consumer Spending (MoM)	Nov	-7.2%	-15.6%	3.7%
	07:45	EUR	French Trade Balance	Nov			-4.8B
	08:00	CZK	GDP (YoY)	3Q F	6.9%		-5%
	08:00	TWD	Exports (YoY)	Dec			12%
	08:30	SEK	Industrial Orders (MoM)	Nov			1.3%
	08:30	SEK	Household Consumption (MoM)	Nov			0.1%
	10:00	EUR	Unemployment Rate	Nov	8.6%	8.5%	8.4%
	10:00	EUR	Italian Unemployment Rate	Nov P		10	9.79
	13:30	USD	Change in Nonfarm Payrolls	Dec			245k
	13:30	USD	Unemployment Rate	Dec			6.7%
	13:30	USD	Average Hourly Earnings (MoM)	Dec			0.3%
	13:30	USD	Average Hourly Earnings (YoY)	Dec			4.4%

	13:30	CAD	Unemployment Rate	Dec	8.5%
	13:30	CAD	Employment Change	Dec	62.1k
	13:30	CAD	Full Time Employment Change	Dec	99.4k
	20:00	USD	Consumer Credit	Nov	7.23B
9-10 J	N/A	CNY	PPI (YoY)	Dec	-1.5%
9-10 J	N/A	CNY	CPI (YoY)	Dec	-0.5%
9-12 J	N/A	JPY	Machine Tool Orders (YoY)	Dec P	8%
9-15 J	N/A	CNY	M2 (YoY)	Dec	10.7%
9-15 J	N/A	CNY	New Yuan Loans	Dec	1430B
9-15 J	N/A	CNY	Aggregate Financing (CNY)	Dec	2134B
10-20 J	N/A	CHF	Swiss House Prices	4Q	484.8

Source: Morgan Stanley Research, Bloomberg

Exhibit 82: 2021 Political Event Calendar

Date	Ccy	Event
05 Jan	USD	Georgia US Senate Runoff Elections
20 Jan	USD	US Presidential Inauguration
24 Jan	EUR	Portugal Presidential Election
25-29 Jan	INT	Virtual Davos Meeting
Mar	CNY	China Two Session Meetings
13 Mar	AUD	Western Australia State Elections
14 Mar	EUR	Germany Baden-Württemberg Rheinland Pfalz State Elections
17 Mar	EUR	Netherlands General Election
25-26 Mar	EUR	European Council Meeting
9-11 Apr	INT	IMF Spring Meetings
11 Apr	PEN	Peru General Election
30 Apr	EUR	Final EU Recovery Fund Plans Due
06 May	GBP	Scottish Parliament Election UK Local Elections
25-28 May	INT	WEO Special Annual Meeting
24-25 Jun	EUR	European Council Meeting
04 Jul	MXN	Mexico Legislative Election
01 Aug	USD	Debt Ceiling Suspension Ends
Sep*	RUB	Russia Legislative Election
05 Sep	HKD	Hong Kong Legislative Election
13 Sep	NOK	Norway General Election
26 Sep	EUR	German Federal Election
Oct*	JPY	Japan General Election
Oct*	CZK	Czech Republic Legislative Election
11-17 Oct	INT	IMF Annual Meetings
14-15 Oct	EUR	European Council Meeting
21 Nov	CLP	Chile General Election
16-17 Dec	EUR	European Council Meeting
Mid Dec	CNY	Central Economic Work Conference

Source: Morgan Stanley Research. Note: *To be held in or before that month

Government Bond Ratings

Exhibit 83: Government Bond Ratings

no		Aaa/ AAA	Aa1/ AA+	Aa2/ AA	Aa3/ AA-	A1/ A+	A2/ A	A3/ A-	Baa1/ BBB+	Baa2/ BBB	Baa3/ BBB-	Ba1/ BB+	Ba2/ BB	Ba3/ BB-	B1/ B+	B2/ B	B3/ B-	Below B3/ B-
US	Moody	STA																
	S&P		STA															
	Fitch	STA																
JPN	Moody					STA												
	S&P					STA												
	Fitch						STA											
UK	Moody				STA													
	S&P			NEG														
	Fitch				NEG													
GER	Moody	STA																
	S&P	STA																
	Fitch	STA																
FRA	Moody			STA														
	S&P			STA														
	Fitch			NEG														
AUT	Moody		STA															
	S&P		STA															
	Fitch		STA															
NETH	Moody	STA																
	S&P	STA																
	Fitch	STA																
FIN	Moody		STA															
	S&P		STA															
	Fitch		STA															
BEL	Moody			STA														
	S&P			STA														
	Fitch				NEG													
SPA	Moody								STA									
	S&P						POS											
	Fitch						STA											
ITA	Moody										STA							
	S&P									NEG								
	Fitch										STA							
IRE	Moody					STA												
	S&P				STA													
	Fitch					STA												
POR	Moody										STA							
	S&P										STA							
	Fitch									STA								
GRE	Moody													STA				
	S&P													STA				
	Fitch											STA						
Australia	Moody	STA																
	S&P	STA																
	Fitch	STA																
New Zealand	Moody	STA																
	S&P		POS															
	Fitch		STA															
Canada	Moody	STA																
	S&P	STA																
	Fitch	STA																

Source: Morgan Stanley Research, Moody's, Standard and Poor, Fitch

STA: Outlook Stable, NEG: Outlook Negative, DEV: Outlook Developing, OW: On Watch Negative, POS: Outlook Positive, SD: Selective Default

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(as of November 30, 2020)

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STOCK RATING CATEGORY	COVERAGE UNIVERSE		INVESTMENT BANKING CLIENTS (IBC)			OTHER MATERIAL INVESTMENT SERVICES CLIENTS (MISC)	
	COUNT	% OF TOTAL	COUNT	% OF TOTAL IBC	% OF RATING CATEGORY	COUNT	% OF TOTAL OTHER MSC
Overweight/Buy	1404	41%	372	46%	26%	620	41%
Equal-weight/Hold	1448	43%	346	43%	24%	666	44%
Not-Rated/Hold	5	0%	1	0%	20%	4	0%
Underweight/Sell	536	16%	85	11%	16%	219	15%
TOTAL	3,393		804			1509	

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